

Environmental Impact Report



Proposed Golf Course – Town of Wilson

Kohler Company
Sheboygan, Wisconsin



Project No.: 193703078
April 9, 2015

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ABBREVIATIONS

| | |
|--------|---------------------------------------------------------|
| AAA | Automobile Association of America |
| BLS | Below Land Surface |
| BMP | Best Management Practice |
| BSA | Bank Service Area |
| CTH | County Trunk Highway |
| CWA | Clean Water Act |
| CZMA | Coastal Zone Management Act |
| DATCP | Department of Agriculture Trade and Consumer Protection |
| DOA | Department of Administration |
| EIR | Environmental Impact Report |
| EPA | Environmental Protection Agency |
| FEMA | Federal Emergency Management Agency |
| FTE | Full-time Equivalent |
| GPD | Gallons Per Day |
| GPM | Gallons Per Minute |
| GPS | Global Positioning System |
| IBA | Important Bird Area |
| ILF | In-Lieu Fee |
| IPM | Integrated Pest Management |
| LAWCON | Land and Water Conservation Fund Act |
| LEED | Leadership in Energy and Environmental Design |
| LOS | Level of Service |
| MBTA | Migratory Bird Treaty Act |
| MSL | Mean Sea Level |
| NHI | Natural Heritage Inventory |
| NOAA | National Oceanic and Atmospheric Administration |
| NPS | National Park Service |
| NRCS | Natural Resources Conservation Service |
| OHWM | Ordinary High Water Mark |
| PCB | Polychlorinated Biphenyl |

| | |
|-------|---------------------------------------------|
| PGA | Professional Golfers Association of America |
| POWTS | Private On-site Wastewater Treatment System |
| SHPO | State Historical Preservation Office |
| TSS | Total Suspended Solids |
| USACE | U.S. Army Corps of Engineers |
| USFWS | U.S. Fish and Wildlife Service |
| WDNR | Wisconsin Department of Natural Resources |
| WWTP | Wastewater Treatment Plant |

EXECUTIVE SUMMARY

Kohler Company ("Kohler") seeks to develop an 18-hole public golf course, a clubhouse and support amenities on 247 acres of undeveloped private land owned by Kohler. The project creates a unique opportunity to open 247 acres of private property for public enjoyment and recreational use, enhance Sheboygan County's reputation as one of the world's premier golf destinations, and at the same time, preserve and enhance many of the Property's environmental features and attributes for the long term.

The Property is located between the Black River and Lake Michigan, north and east of the Kohler-Andrae State Park (State Park) in the Town of Wilson, Sheboygan County, Wisconsin. Kohler acquired a total of approximately 468 acres in the vicinity during the 1930's. In 1965, Kohler donated 221 acres to the State of Wisconsin for the creation of the John Michael Kohler State Park. The remaining 247 acre parcel retained by Kohler in private ownership is uniquely suited for a premier 18-hole golf course.

With its Lake Michigan vistas, rolling topography and unique natural features, the property offers an unparalleled setting for a spectacular golf in forest and dunes experience. Kohler again intends to tap world-renowned designer Pete Dye to design a course that will rival the top 50 courses in the world. Page vi of the Executive Summary contains the proposed golf course plan (Figure ES-1). The proposed course, together with Kohler's other championship golf courses in the area, will maintain the reputation of Sheboygan County as one of the premier golf destinations in the world.

An economic impact study by S. B. Friedman Development Advisors estimates the proposed golf course will generate over \$20 Million in annual economic output for Sheboygan County, 227 full time equivalent jobs, and over \$1.1 Million in new tax revenue per year. In developing this project, Kohler is not requesting any public financing, tax incremental financing or public-funded infrastructure.

Golf course land use is appropriate at the Kohler Property. "Golf courses with country club/restaurant facilities/driving ranges" are allowable as conditional uses in the P-1 Park and Recreation District that applies to the property under the Town of Wilson zoning code. Kohler is not proposing any changes to Town zoning.

The project will not compromise the property's natural features. To the contrary, Kohler and Dye will design the course and all amenities as respectful environmental stewards, with a minimalist approach striving to maintain the character of natural features. The proposed golf course will integrate many existing trees, dunes and natural contours, and minimize environmental impacts. During project planning, several conceptual course layouts and entrance alternatives were identified, characterized and evaluated. The proposed alternative minimizes impact on neighbors, regulated natural features, and the State Park.

Less than 5 acres of wetland will be affected, a reduction of over 80 percent from initial course layouts. Wetland mitigation would be provided through approved programs, resulting in a net increase in wetland habitat.

While construction activities within the floodplain are unavoidable and may involve minor filling, the project will result in minimal increase to floodplain elevations.

Habitat for regulated endangered plant species will generally be preserved. To the extent possible, any impacted plants will be transplanted to nearby areas with similar characteristics. Invasive species such as thorny Japanese barberry will be removed, and Kohler will monitor invasive species on an on-going basis to improve overall habitat. The management of invasive species will have a significant, long term positive benefit to the property and biological community. Invasive species removal allows native plant communities to repopulate, significantly enhancing the habitat, and promotes increases in biological and wildlife diversity.

The use of pesticides and fertilizers is highly regulated at both the State and Federal levels to protect surface and groundwater. Kohler has a proven record of employing the best management practices regarding use of approved pesticides and fertilizers on its golf courses and its courses have never been cited for an environmental violation. Kohler will implement an integrated pest management plan to minimize pesticide and fertilizer usage at the new course—just as it does at its other golf courses. With these methods, in 2014, Kohler applied fertilizer at rates on its other golf courses that were significantly less than Wisconsin Administrative Code maximums: 32 percent of maximum on tees, 40 percent of maximum on greens and only 20 percent of authorized state and federal maximum levels on fairways.

A ground water study was completed to determine the potential impacts on neighboring residential wells from irrigating the proposed golf course. Based upon the field investigation, pumping tests, and a review of well logs from the area, golf course irrigation is not anticipated to adversely impact the surrounding neighborhood. Kohler will proactively manage its water usage to minimize irrigation, employing computerized irrigation systems, soil moisture sensors and daily inspections.

Kohler will manage storm water consistent with Town of Wilson and WDNR best management practices, reducing post-development peak flow rates to pre-development rates, removing 80 percent of total suspended solids and infiltrating at least 90 percent of storm water infiltrated prior to development.

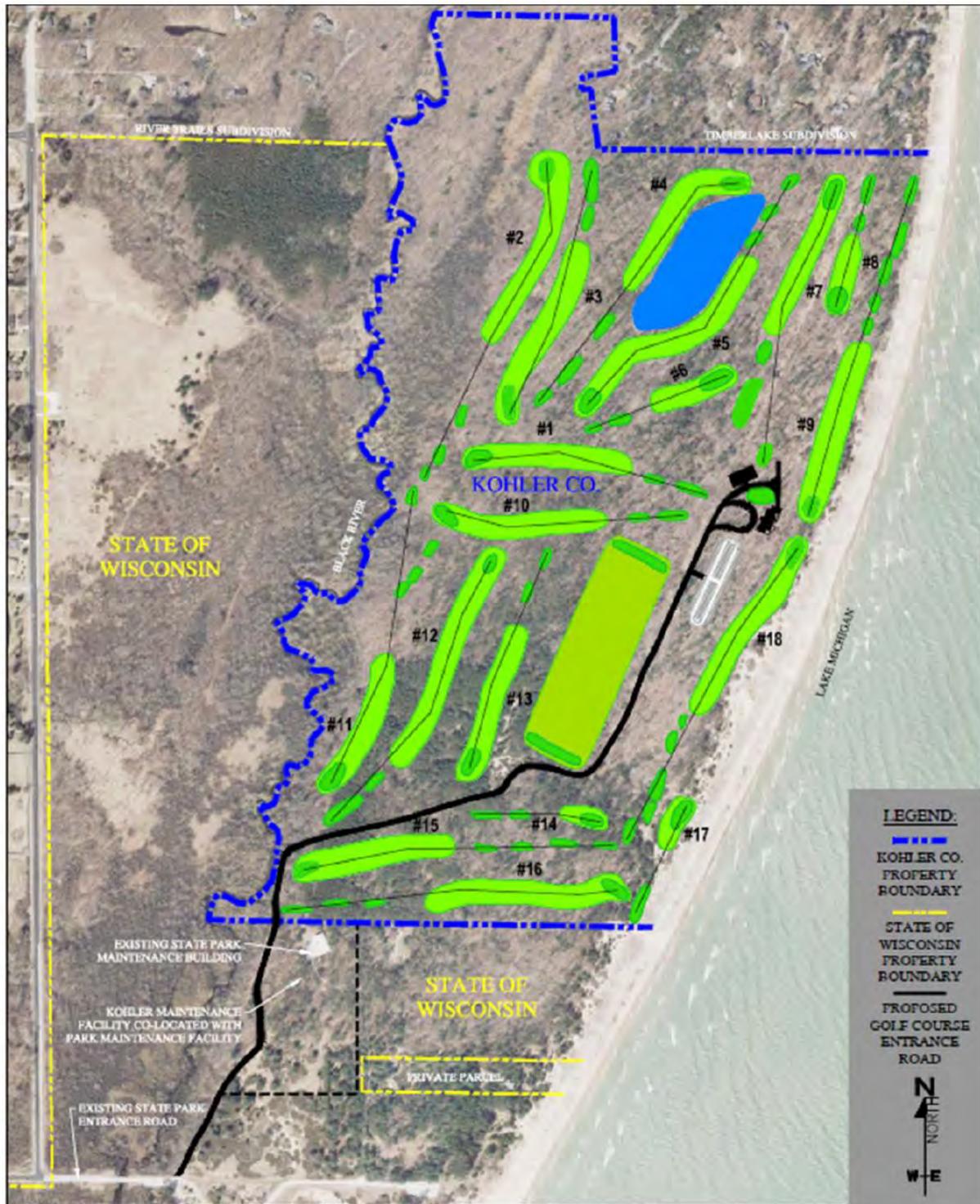
Kohler investigated numerous alternative entrance routes to the Property resulting in a proposed route that has the least impact on both the neighbors and environment. Access through residential neighborhoods to the north was investigated but not recommended due to traffic impacts to area residents. Multiple routes originating off 12th Street through the State Park were also investigated, but determined more impactful than the route being proposed. A traffic study was completed and concludes that the studied intersections significantly exceed widely-accepted Level of Service (LOS) standards. While no traffic improvements are required, Kohler is proposing to modify the State Park entrance area by adding a roundabout, east of the existing bridge spanning the Black River to further improve circulation. Two lanes would be dedicated for entering State Park visitors while golf course traffic and exiting State Park visitors would utilize the roundabout. Kohler would fund the entire cost of the improvements.

The proposed golf course entrance road location is similar to that recommended by both WDNR and the Town of Wilson for a previous development project. The route and maintenance facility placement will require an easement from the WDNR on approximately 4 acres of land already dedicated to park maintenance. Specifically, Kohler proposes to: i) enhance the current entrance to the State Park off Beach Park Road and utilize an existing bridge over the Black River, thus avoiding the need for another crossing over the Black River; and, ii) build a maintenance facility close to the State Park maintenance building providing the State an opportunity to upgrade the utilities at its building.

The proposed golf course avoids, minimizes, and mitigates environmental impact of both its construction and long term operations. On balance, Kohler believes that the benefits of its proposed golf course project far outweigh any adverse impact.

ENVIRONMENTAL IMPACT REPORT
PROPOSED GOLF COURSE – TOWN OF WILSON – KOHLER COMPANY

Figure ES-1 Proposed Golf Course Plan



1.0 PROJECT SUMMARY

Kohler Company ("Kohler") seeks to develop an 18-hole public golf course (the "Project") on 247 acres of private land owned by Kohler between the Black River and Lake Michigan, north and east of Kohler-Andrae State Park (the "State Park"). The Project will be limited to Kohler Company owned property and an approximate 4 acre State Park easement north of Beach Park Road on State land that is not typically utilized by the public. For the Project to move forward, various Federal, State, and local permits and approvals will be required, including approvals from the Wisconsin Department of Natural Resources (WDNR).

In preparation for submitting this environmental impact report (EIR) to the WDNR, numerous biological, cultural, and socio-economic studies were completed to evaluate existing and proposed conditions.

This EIR supports the various permit applications for the Project, provides a description of existing environmental conditions, assesses human and environmental impacts that may result from the Project, and summarizes the mitigation measures to be implemented to avoid and/or minimize environmental impacts.

Throughout the Project planning process, a final layout has been developed that reduces impacts, including: reducing wetland impacts from greater than 25 acres to less than 5 acres; reducing the area of tree clearing to approximately 50 percent; utilizing an existing bridge to avoid impacts to the Black River and associated floodplain; reducing the need for an easement on State Park property by 85 percent (from 33 acres to approximately 4 acres), while avoiding existing trails west of the Black River.

1.1 PROPOSED ACTION

Kohler proposes to create a public 18-hole golf course on Kohler-owned property (the "Kohler Property"). The Project is located north of the State Park in the Town of Wilson (Figures 1-3). The course will be designed by Pete Dye, a world-renowned golf course designer who successfully designed Kohler's Blackwolf Run and Whistling Straits golf courses in Sheboygan County.

Access to the Kohler Property is proposed through a 4 acre easement on the adjacent State Park property to the south. This portion of the State Park is not typically utilized by the public and contains an existing park maintenance building and residence for the Park Ranger. Similar to a proposed development previously recommended by the WDNR and the Town of Wilson, access to the Kohler Property will require the construction of a two lane asphalt entrance road. This route will allow for the utilization of an existing Black River bridge crossing thereby minimizing impacts to the river and adjacent floodplain.

A maintenance facility will also be constructed relatively close to the existing park maintenance building on that portion of State Park property not typically utilized by the public. The Kohler maintenance facility will be used for golf course grounds maintenance support and storage. As a direct benefit to the State Park, enhanced public utilities will be available to upgrade the park's maintenance building, along with the occasional use of the entrance road for park maintenance operations.

A multi-level clubhouse will be erected on the Property that encompasses minimalist design elements and concepts. The 13,000 to 16,000 square foot clubhouse will include a Lake Michigan observation tower, restaurant, locker room, lobby, bar area, retail, and outdoor wedding and special event space. A guest and associate parking lot will be located near the clubhouse and include a bag drop area. The clubhouse will be designed to be eligible for

Leadership in Energy and Environmental Design (LEED) certification, and include the use of timber and canvas materials as architectural features.

A caddie/cart barn and two on-course rest stations will be constructed on the Kohler Property.

1.2 PROJECT LOCATION

The Kohler Property is located in part of Section 14 of Township 14 North, Range 23 East, in the Town of Wilson, Sheboygan County, Wisconsin (Figures 1 and 2). Lake Michigan borders the Kohler Property to the east, and the State Park borders the Kohler Property to the west and south. Residential neighborhoods are adjacent to the north boundary. South 12th Street is located west of the State Park property (Figure 3 and 4).

Kohler originally acquired approximately 468 acres of property in the area during the 1930s. In 1965, Kohler donated 221 acres to the State of Wisconsin for the creation of the John Michael Kohler State Park, while retaining the remaining 247 acre parcel which is the subject of this report.

1.3 PURPOSE AND NEED

The purpose of the Project is to open the Kohler Property to public use as a high quality 18-hole golf course and associated facilities to benefit the local economy and to provide community-friendly and environmentally sensitive access to the golf course. An entrance road from Beach Park Lane through the State Park provides public access to the Kohler Property in a manner that reduces traffic issues for the surrounding residential neighborhoods.

The Project presents an extraordinary opportunity to open 247 acres of private lands to the public. In the past, authorized access to this private property was limited to a relatively small number of individuals. This project creates access for the general public to enjoy the property, whether that be by playing a round of golf or taking in the beauty of Lake Michigan from the clubhouse.

Golf is more than an enjoyable pastime; it is a key industry contributing to the vitality of the nation's economy. Golf attracts businesses and visitors, drives residential and recreational development and creates demand for a variety of goods and services. In 2008, Wisconsin's golf industry generated approximately \$2.4 billion of direct and indirect economic output, \$771.5 million of wage income and 38,431 jobs. (SRI International, 2008).

The economic benefits of a new golf course are measured in more than just recreation and business travel dollars. Benefits begin with millions of dollars of planning, design and construction work. Once constructed, a course creates jobs along with state and local income including sales and property taxes. In addition, a new golf course, and a championship-caliber course in particular, has a "multiplier effect," infusing wages and benefits to circulate through the local economy, increasing property values and ancillary public and private benefits.

Wisconsin is recognized as a golf mecca. *Golf Digest* ranked Sheboygan County as the number seven golf destination in the world in its 50th anniversary issue. (See Table 1.1 below of the top ten golf destinations in the world.) In its 2015/2016 America's 100 Greatest Public Courses, *Golf Digest* ranked all four Kohler courses in the top 100: #4 – Straits course, #16 – Rivers course, # 47 – Irish course, and #72 – Meadow Valleys course. All four courses at Blackwolf Run and Whistling Straits were among the top 10 in the State of Wisconsin led by the Straits course being ranked #1. Also, in its World's Best Golf Destinations 2014/2015 rankings, *Golf Odyssey* ranked The American

Club as the Best Overall U.S. Resort. In determining this ranking, the publication evaluated golf, lodging, dining and activities.

Table 1.1 Golf Destination Rankings

| 50 GREATEST GOLF DESTINATIONS, <i>GOLF DIGEST</i> MAGAZINE – SEPTEMBER 2000 |
|-----------------------------------------------------------------------------|
| 1. Monterey, California |
| 2. St Andrews, Scotland |
| 3. Pinehurst/Southern Pines, North Carolina |
| 4. Northern Ireland |
| 5. Southwest Scotland/Ayshire |
| 6. Southwest Ireland/County Kerry |
| 7. Sheboygan County, Wisconsin |
| 8. Phoenix/Scottsdale, Arizona |
| 9. Greater Myrtle Beach, South Carolina |
| 10. Hilton Head, South Carolina |

1.4 DEVELOPER OF PROJECT

Kohler was founded in 1873 and is headquartered in Kohler, Wisconsin. It is Sheboygan County's top employer and one of America's oldest and largest privately held companies. Kohler has presence on six continents and is a global leader in the design and manufacture of kitchen and bath products; engines and power systems; premier furniture, cabinetry and tile; and is the owner/operator of two of the world's finest five-star hospitality and golf resort destinations in Kohler, Wisconsin and St Andrews, Scotland.

The Kohler golf tradition in Sheboygan County began in 1985 when Herb Kohler hired world-renowned architect Pete Dye to design Blackwolf Run. Pete Dye is one of only five golf course designers inducted into the World Golf Hall of Fame. His design philosophy is environmentally sensitive, utilizing the natural terrain and preserving natural site features. Building on Blackwolf Run's reputation, Kohler added Whistling Straits, another Pete Dye design, in 1995. What immediately becomes apparent with all of Kohler's golf courses is the unique sensitivity and respect to the surroundings of the immediate area. Nowhere to be found are ancillary or contiguous housing or commercial developments that are almost always present near golf courses throughout the United States.

Kohler's success in the golf world leverages Kohler's success in its hospitality venues. Kohler became a hospitality destination in 1981, when it converted a worker boarding house into an elegant, luxury hotel with upscale restaurants and amenities. Today, The American Club is Wisconsin's only Forbes Five-Star hotel with an AAA five diamond resort designation. In addition to The American Club, Destination Kohler offers not only outstanding accommodations and dining options, but also Kohler Waters Spa, Sports Core Health and Racquet Club, The Shops at Woodlake, Kohler Design Center and countless other high quality amenities and events within Sheboygan County, including River Bend, a meticulously restored residence of former Governor Walter J. Kohler and River Wildlife a 500 acre environmentally sensitive wildlife preserve.

Kohler, along with the Kohler Trust for Preservation, also jointly owns and manages Eagle Valley, a 1500 acre nature preserve nestled on top of the cliffs of the Mississippi River in southwestern Wisconsin. In 2012, Kohler and Herb Kohler created the Kohler Environmental Center on 260 acres of land in Wallingford, Connecticut placing Choate Rosemary Hall on the leading edge of secondary education in the United States.

Kohler's experience and expertise in developing, managing and operating all of these properties over the years shows a proven track record and is evidence of Kohler's commitment to environmental responsibility, sustainability, innovation and high standards of execution.

The proposed Project will be the latest world-class Kohler golf course designed by Pete Dye. The uniqueness of the location, the setting and the terrain provide a one-of-a-kind opportunity to create a world class, golf in forest and dunes destination. The Kohler commitment to excellence, as evidenced by the success of its other hospitality venues in the area, including the American Club, Blackwolf Run and Whistling Straits, will create a critical mass unrivaled in the United States.

1.5 AUTHORITIES AND APPROVALS

The uniqueness and location of the Project requires permits and approvals from Federal, State, and local authorities as summarized in Table 1-2. Kohler is committed to collaborating and systematically investigating development options that protect the environment, and increase public access to the Kohler Property.

The various permitting processes create an opportunity for regulatory agencies and Kohler to work together to create a one-of-a-kind golf destination in an environmentally sensitive way. Table 1-2 summarizes the permits and associated regulatory agency collaboration anticipated for this Project.

Table 1-2. Anticipated Permitting Requirements for the Project

| AGENCY | INTEREST OR PERMIT |
|-------------------------------------------|-------------------------------------------------------------------------------------|
| U.S. Army Corps of Engineers | Section 404 Clean Water Act Permit for Wetland Discharge |
| National Park Service | Conversion of Land and Water Conservation Fund Act Lands |
| U.S. Fish and Wildlife Service | Threatened and Endangered Species Protection |
| Wisconsin Department of Natural Resources | Section 401/NR 103 Wetland Discharge |
| Wisconsin Department of Natural Resources | Chapter 30 Grading Permit |
| Wisconsin Department of Natural Resources | NR 150 Environmental Impact Statement |
| Wisconsin Department of Natural Resources | Threatened and Endangered Species Protection |
| Wisconsin Department of Natural Resources | NR 151/NR216 Construction Time Storm Water Discharge Permit |
| Wisconsin Department of Natural Resources | Sanitary Permit |
| Wisconsin Department of Natural Resources | High Capacity Well Permit |
| State Historic Preservation Office | Archaeologic Consultation |
| Sheboygan County | Shoreland-Floodplain Conditional Use Permit; Zoning Permit; Sanitary Permit |
| Town of Wilson | Conditional Use Permit; Storm Water Permit; Erosion Control Permit, Building Permit |

1.5.1 Federal

1.5.1.1 U.S. Army Corps of Engineers (USACE)

The Project will require compliance with Section 404 Clean Water Act (CWA) administered by the USACE for wetland impacts.

1.5.1.2 National Park Service (NPS)

The State Park property is funded by the NPS Land and Water Conservation Fund Act (LAWCON). Use of State Park property will require approval from the NPS. The proposed easement area of use is approximately 4 acres of State Park property.

1.5.1.3 U.S. Fish & Wildlife Service (USFWS)

The Project will require USFWS review and compliance with the Endangered Species Act and Migratory Bird Treaty Act (MBTA).

1.5.1.4 Federal Emergency Management Agency (FEMA)

No significant increases are expected to floodplain elevations.

1.5.2 State of Wisconsin

1.5.2.1 Wisconsin Department of Natural Resources (WDNR)

The Project will require permits and approvals from the WDNR, including:

- Wetland Water Quality Certifications, Wetland Fill and Wetland Compensatory Mitigation (Wis. Adm. Code Chapter NR 103, Section 401 Clean Water Act)
- Grading (Wis. Stat. §30.19, Section 404 Clean Water Act)
- Individual Permit, Irrigation Pond with wetland impacts (Section NR 103, Wis. Adm. Code)
- Storm water (WPDES Sections NR 216 and NR 151, Wisc. Adm. Code)
- High Capacity Well Permit (Section NR 812, Wisc. Adm. Code)
- Sanitary Permit (WPDES Section 283, Wisc. Adm. Code)

Kohler requested an Endangered Resource Review from the WDNR for this Project. Coordination with the WDNR regarding endangered resources is ongoing.

Kohler understands that the WDNR will require an Environmental Impact Statement under Section NR 150 (Wis. Adm. Code) to ensure that the WDNR and the public have comprehensive information to fully consider the short and long term effects of the Project.

1.5.2.2 Wisconsin State Historic Preservation Office (SHPO)

Kohler has undertaken extensive historical and archaeological surveys of the property. Consultation with the SHPO will occur upon completion of the surveys.

1.5.3 Local

1.5.3.1 Sheboygan County

Kohler will seek a shoreland/floodplain conditional use and zoning permit from Sheboygan County, along with a request for wetland rezoning per Chapter 72, Shoreland Ordinance. A zoning permit and sanitary permit will also be required from the County Planning Department for this Project.

1.5.3.2 Town of Wilson

The Project will require a conditional use permit from the Town of Wilson. The golf course is allowable as a conditional use in the current P-1 Parks and Recreation District.

2.0 PROPOSED PHYSICAL CHANGES

2.1 MANIPULATION OF TERRESTRIAL RESOURCES

Construction of the Project will include the following activities: selective tree removal, grading, installation of utilities, including septic and irrigation systems, excavation of an irrigation pond, construction of an access road and cart paths, construction of new buildings, and construction of the golf course.

Vegetation will be removed from the footprint of the golf course fairways, greens and tees. Mature trees and other native vegetation will be retained between the golf holes where possible. Vegetation will also be removed from the access road and utility right-of-way, building footprints, septic fields, irrigation system, and driving range. It is anticipated that approximately 50 percent of the existing trees will remain following construction. As part of this development, invasive plant species will be managed on the Kohler Property.

Site grading is anticipated to be minimal across the site. The site designer intends to respect major dune structures and natural contours of the Property. The largest topographic change will be the excavation of an approximate five-acre irrigation pond. The spoils from the irrigation pond may be used on-site.

The vegetation within the footprint of golf holes (tees, greens, fairways) and driving range will be replaced with turfgrass. Native vegetation and trees will be planted during the final landscape phase to enhance the aesthetics and habitat value on the site, replacing some of the specimens and invasive species removed. The majority of the club house landscaping and the non-turfgrass areas on the course will be composed of native vegetation.

Infrastructure to be constructed on the site includes the access road, the cart paths, the parking lots, the rest stations (2), the maintenance buildings, the club house, and the caddie/cart barn.

2.2 MANIPULATION OF WATER RESOURCES

2.2.1 Waterways

No disturbance of public waterways is proposed.

The Project will not withdraw surface water from the Black River or Lake Michigan. The Property does not have access to a public water supply, so feasibility studies were conducted to determine a source for irrigation and potable water supply for the Project. Surface water sources were found to be infeasible.

Access to the Property is planned to utilize the existing Beach Park Lane crossing of the Black River. This route avoids creating an additional river crossing and avoids direct impacts to the Black River and associated floodplain.

2.2.2 Ground Water

Based on the feasibility studies, groundwater pumped from the bedrock aquifer is the best option for the irrigation supply (Layne 2014, Excel 2014a, Stantec 2014a). An on-site well will pump water from the bedrock aquifer to an irrigation pond for storage and use. Refer to Section 2.3.7 for groundwater pumping information.

The shallow groundwater aquifer is located within the overlying sand layer, at places within three feet of the ground surface. Domestic wastewater septic systems will be constructed to provide adequate separation from the shallow groundwater.

Groundwater modeling data indicates operation of the irrigation system is not anticipated to impact adjacent private water supply wells. As a special insurance, Kohler will fund and develop a program with the Town of Wilson to mitigate potential impacts to adjacent private water supply wells, similar to the program that was successfully implemented at Whistling Straits.

2.2.3 Floodplain

A portion of the proposed golf course will be constructed along the east perimeter of the Black River floodplain. Construction within the floodplain may include minor filling for a small portion of the golf course and the entrance road. Increases to the floodplain elevation are anticipated to be minimal.

2.2.4 Wetland Impacts

The Project will result in less than 5 acres of wetland impacts scattered in various areas across the entire 247 acre property. Construction within wetlands is expected to include fill placement. The volume of fill has not yet been calculated, as the process of avoiding and minimizing wetland impacts is ongoing. Wetland mitigation is planned to offset all wetland impacts, resulting in a net increase of wetlands.

2.3 BUILDINGS, TREATMENT UNITS, ROADS AND OTHER STRUCTURES

2.3.1 Course Layout

This Project is the latest world-class Kohler golf course designed by Hall of Fame golf course architect Pete Dye. The course will be developed with a goal of ranking in the top 50 courses in the world upon maturity. Corridors will be opened to sunlight, and views of Lake Michigan while removing invasive species and maintaining approximately half of the trees on the Property. The dunes and their natural contours would be respected and are essential to the design.

The 18-hole golf course will be located entirely on the Kohler Property (Figure ES-1). An approximate 5 acre irrigation pond is planned in the northern portion of the Kohler Property, while the practice range is planned to be in the south portion. The clubhouse and other amenities are centrally located.

2.3.2 Clubhouse

A multi-level clubhouse is planned to be between 13,000 and 16,000 square feet in size and consist of areas designated for indoor/outdoor dining, bar area, locker rooms, retail, and banquet room. The clubhouse building would be designed to be eligible for LEED certification, and include the use of timber and canvas materials as architectural features.

The restaurant in the clubhouse will be available to the public and would open in spring and remain open through the New Year's holiday season. The dining area could accommodate approximately 60 interior dining seats and 50 exterior dining seats. The banquet room would have a capacity for up to approximately 70 people for special event functions. A Lake Michigan observation tower will also be accessible to guests.

A parking lot located near the clubhouse will accommodate approximately 150 guest vehicles.

2.3.3 Maintenance Building

The maintenance facility is planned to include approximately 22,000 square feet of building space. Functions within the maintenance building include administrative offices, locker rooms, equipment storage, equipment wash and repair, and a dedicated self-contained area for

storage, mixing, and loading of plant protectants. A closed loop system for the equipment wash is planned that would capture, filter, and re-use water from the wash area.

2.3.4 Entrance Road

Eight entrance routes were investigated to identify a preferred route for guest and operational traffic. All entrance route options are constructible and viable; however the presence of environmental encumbrances and current use results in certain routes being more desirable than others. Eight maintenance building locations were considered in co-locations with the entrance routes. Section 4.2.3 presents the entrance route locations.

The benefits of Alternative E include:

- Minimizes impacts to the floodplain by avoiding the creation of a new bridge crossing the Black river
- Minimizes wetland impacts to the least amount of all alternatives
- Avoids State Park recreational areas and trails
- Avoids impacts to cultural resources
- Avoids traffic through residential areas to the west and north of the property

The two-lane entrance road and maintenance facility requires an approximately 4 acre easement through State Park property, north of Beach Park Lane, in an area not typically utilized by the public.

A traffic study was completed and concludes that the studied intersections significantly exceed widely-accepted Level of Service (LOS) standards. While no traffic improvements are required, Kohler is proposing to modify the State Park entrance area by adding a roundabout, east of the existing bridge spanning the Black River to further improve circulation. Two lanes would be dedicated for entering State Park visitors while golf course traffic and exiting State Park visitors would utilize the roundabout. Kohler would fund the entire cost of the improvements. Additional details on the Traffic study are provided in Section 3.3.2.

2.3.5 Utilities

Based upon preliminary discussions with utility providers (gas, electric, communications), it is anticipated that service connections will be extended from existing facilities located in County Trunk Highway V (CTH V) approximately one-half mile west of the Kohler Property. The new services will be bored beneath State Park property wetlands and the Black River within an agreed-upon easement less than one acre in size. Potable water and irrigation water will be provided by on-site wells and testing has been completed that confirms conventional septic field systems can be used to treat domestic wastewater.

2.3.6 Integrated Pest and Nutrient Management

The use of pesticides and fertilizers is highly regulated at both the State and Federal levels to protect surface and groundwater. Kohler has a proven record of employing the best management practices regarding use of approved pesticides and fertilizers on its golf courses and its courses have never been cited for an environmental violation.

Kohler uses an integrated pest management (IPM) approach at all of its golf properties as a sustainable method for managing pests and intends to adopt the same plan for this Project. The plan consists of six steps:

1. Identify the pest (Kohler subscribes to the Wisconsin Turfgrass Disease Diagnostic lab at UW-Madison for next-day microscopic pest identification and control recommendations)
2. Develop a control plan/strategy
3. Establish threshold limits for the pest
4. Monitor the pest populations
5. Control the pest
6. Evaluate and/or redesign the plan

The foundations of the IPM plan include the latest horticulture practices (fertilization, soil tests, irrigation, drainage and minimizing turf stress) to promote healthy, vigorous plants that withstand pest outbreaks without pest controls. Managers are educated in the biological lifecycle of pests so when pest populations approach a control threshold they can predict outbreaks, assess damage potential and time control at the most effective lifecycle stage. Pest control measures are first attempted by physical, mechanical and cultural controls. The use of a pesticide is a last consideration after other measures are unsuccessful. Pesticide applications are made to specific target areas to reduce the overall size of the treatment area. All golf course management staff are pesticide applicator certified by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP).

Nutrient management is a key part of the project specific IPM plan and the ability to support healthy growth of the turfgrass. Kohler will develop a nutrient management plan for the project similar to the plans used at the other Kohler courses in the region. Fertilizers will be applied based on current soil tests, and the fertilization component of the IPM plan will be evaluated and modified as necessary each year. The Kohler golf course fertilization program is constantly being modified to incorporate the latest technologies including slow release and organic products.

Section NR151 of the Wisc. Admin. Code mandates an annual maximum amount of nutrients that can be applied to golf course turfgrass areas to protect surface and groundwater. In 2014, all Kohler golf courses in Sheboygan County, on average and in total, applied fertilizer at only 32 percent of the maximum amount on tees, 40 percent of the maximum amount on greens and only 20 percent of authorized state and federal levels on fairways.

2.3.7 Irrigation and Water Best Management Practices

Based on the 18-hole historical irrigation records at the Blackwolf Run and Whistling Straits Golf Courses, irrigation system flow rates of up to 1,500 gallons per minute (gpm) and average long term volumes of 15,000,000 to 25,000,000 gallons per year can be anticipated. The average pumping volume during the peak months of the last seven years at the Kohler golf courses was 190,000 gallons per day (gpd) per 18-holes, with a peak of 334,000 gpd during the driest months of the 2012 drought. Kohler anticipates that similar rates and volumes will be needed for this Project.

Kohler investigated several alternatives for sourcing irrigation water from surface waters, including a Lake Michigan submerged intake, a Ranney collector well system, a Black River intake, and using wastewater from the City of Sheboygan wastewater treatment plant (WWTP).

The Lake Michigan submerged intake was found to be unfeasible due to significant potential impacts to the lake bed during construction, concerns with zebra mussel interference at the intake, and damage from ice and wave action due to shallow lake water depths.

A Ranney collector well is a system which could extract Lake Michigan water from the adjacent saturated sandy beach areas. The advantages of this system include minimal impacts during construction and avoiding operational issues from zebra mussels. An on-site investigation and test borings completed in July of 2014 indicated extremely low hydraulic conductivity values making this alternative not technically feasible (Stantec, 2014a).

The Black River alternative was determined to be unfeasible after a 2014 investigation indicated the flow rates of the river would not meet the irrigation water demands without creating adverse impacts (Stantec, 2014a).

Reusing water from the WWTP is also not a feasible option due to potential environmental impacts, regulatory compliance constraints, and operational issues.

Similar to the existing Kohler golf courses, an irrigation well with a 450 gpm pump is planned to supply water to an irrigation pond. Water from the pond will be distributed via an underground irrigation system to the appropriate areas of the golf course.

Irrigation best management practices (BMPs) are employed at the existing Kohler golf courses and would be employed for the proposed Project as well. Kohler proactively manages irrigation water use in efforts to minimize volumes. Irrigation is carefully scheduled to match turf and soils conditions, to conserve water, reduce runoff, and prevent disease. Evapotranspiration rates and pending weather fronts are also factored into irrigation schedules. Other BMPs to regulate water use include:

- Computer controlled irrigation system for maximum efficiency
- Irrigation design is prescriptive; sprinklers are fully adjustable to water just the playing surfaces while avoiding native or out of play areas
- Use of soil moisture sensors to determine watering needs
- Use of quick couplers for hand water of isolated dry areas to prevent over watering of adjacent areas
- Cycle-soak feature automatically turns sprinklers off to prevent surface water run off until water has moved into soil to be used by plant roots
- Daily inspections of pressure readings and proper pump operation
- Low trajectory sprinkler nozzles apply water closer to the ground to minimize drift from wind
- Monthly irrigation system audits

2.3.8 Storm Water Management

The Town of Wilson and the WDNR require storm water management on this Project, as summarized below:

- Town of Wilson – The Town's storm water management code requires post-development storm water peak flow reduction and total suspended solids removal. It also mandates storm water infiltration facilities be provided. Specifically, the Town

requires post-development peak flow rates for the 2-year, 10-year, and 100-year storm events to not exceed their corresponding pre-development peak flow rates. The Town also requires 80 percent of the total suspended solids (TSS) be removed from post-development runoff and that the quantity of post-development storm water that is infiltrated exceed 60 percent of what infiltrated prior to development.

- WDNR – Similar to the Town, the WDNR has requirements for post-development storm water peak flow reduction, total suspended solids removal and infiltration. Specifically, the WDNR requires post-development peak flow rates for the 1-year and 2-year storms to not exceed their corresponding pre-development peak flow rates. They also require 80 percent of the TSS be removed from post-development runoff and that the quantity of post-development storm water that is infiltrated exceed 90 percent of what infiltrated prior to development.

Storm water management strategies have been developed to exceed the expected regulatory requirements for the Project. The strategies are based upon sandy soils and high infiltration rates associated with the Kohler Property. The bulk of the storm water management plan consists of filter strips which treat most impervious areas for quality and quantity prior to infiltrating and discharging to any nearby surface waters. For those areas that require more treatment (e.g., maintenance building), dry detention basins will be added to detain any additional runoff. Biofiltration areas may also be required to treat areas with concentrated flow that cannot drain to filter strips. These are depressed areas with three feet of engineered soil, mulch, and wetland type plantings. All treatment areas are planned to be constructed 5 feet above the anticipated high groundwater elevation or achieve 80 percent TSS removal prior to infiltrating.

2.4 ALTERNATIVES

2.4.1 ALTERNATIVE SITE LOCATION

The size and features of the Property are ideal for creating a world class golf course in Sheboygan County. The Lake Michigan shoreline, sand-based geology, natural contours, and sand dunes make this setting unique to Sheboygan County and the State of Wisconsin. Kohler has privately owned the property for over 75 years and currently operates four golf courses in Sheboygan County.

Kohler does not own and did not locate any comparable properties for sale along the Lake Michigan shoreline that had potential for a world-class golf course.

2.4.2 ALTERNATIVE DESIGNS

During project planning, four conceptual course layouts and eight entrance route alternatives were identified, characterized and evaluated. The course layout alternatives were considered in order to identify a preferred course design and minimize environmental impacts. The alternatives also include alternate maintenance building locations. The preferred alternative (Alternative E) has the least amount of wetland impacts of the twelve alternatives, minimizes impacts as much as practicable, and avoids impacts to recreational areas of the State Park and archaeologically significant human burial mounds.

Alternative drawings with course layout, entrance routes, and maintenance building locations are presented in Section 4.2.3. The following provides a summary of the alternative designs considered for this project:

No Build Alternative

The no-build alternative would mean the loss of the economic benefits created by the proposed project including 227 full-time equivalent permanent jobs and the generation of nearly \$21 million in annual economic activity for Sheboygan County households and businesses.

Additionally, the Property is currently closed to the public. The no-build alternative would negate the opportunity to open the Property for public enjoyment and deny creation of a recreational opportunity that complements the current land use of the Property and area. Currently the majority of property owners in Timberlake Subdivision do not have access to Lake Michigan. Contrary to the build alternatives, the no-build alternative does not allow for a lake access easement to be granted to the owners in Timberlake Subdivision.

Alternative A

The Alternative A course layout design is near maximum build-out which expands to the northwest within close proximity to the burial mounds, to the east on the beach adjacent to Lake Michigan, to the south on State Park property, and to the west within the Black River floodplain. The entrance route originates on South 12th Street, and traverses the southern part of the State Park property crossing wetlands and the Black River. The maintenance building is located in the west central portion of the Kohler Property, north of the entrance route within a [REDACTED]. This alternative would require an easement of more than 32 acres from the State of Wisconsin.

Alternative B-1

The Alternative B-1 course layout design is near maximum build-out within the existing Kohler Property, expanding to the northwest within close proximity to the burial mounds, to the east on the beach adjacent to Lake Michigan, to the south adjacent to the Kohler Property boundary, and to the west within the Black River floodplain. The entrance route originates on South 12th Street, further north than Alternative A, and traverses the State Park property crossing wetlands, recreational trails, and the Black River. The maintenance building is located in the central portion of the State Park property south of the entrance route within a degraded hardwood swamp and would be visually screened by a mound.

Alternative B-2

Alternative B-2 proposes the same course layout design and entrance route as Alternative B-1. The Alternative B-2 proposed maintenance building does not include the visual screening mound that is proposed in Alternative B-1. The entrance route originates on South 12th Street and traverses the State Park property crossing wetlands, recreational trails, and the Black River.

Alternative C

The Alternative C reduces the footprint of the course layout within the Kohler Property. Holes designed in the northwest location are moved further to the south away from the burial mounds. Holes within the Black River floodplain are moved further to the east. Holes adjacent to Lake Michigan are moved to the west.

The entrance route and maintenance building remain in the same location as Alternative B-2. The entrance route originates on South 12th Street and traverses the State Park property and crosses wetlands, recreational trails, and the Black River.

Alternative D-1

Alternatives D-1 through D-7 contain the same course layout design with alternate entrance routes and maintenance building locations to identify the location/route that minimize impacts.

The entrance route originates on South 12th Street, and traverses the southern part of the State Park property, crossing wetlands and the Black River. The maintenance building is located on the State Park property south of the entrance route within an [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, and degraded hardwood swamp. This alternative would require an easement from the State of Wisconsin for the entrance road and maintenance facility located within the State Park property.

Alternative D-2

The entrance route begins on South 12th Street on the north end of the State Park property, crossing wetlands, recreational trails, and the Black River near the north-south midline of the Kohler Property. The maintenance facility is located in old field south of the entrance route. The entrance road to the maintenance facility crosses a degraded wet meadow. This alternative would require an easement from the State of Wisconsin for the entrance road and maintenance facility located within the State Park property.

Alternative D-3

The entrance route for Alternative D-3 begins at the intersection of Stahl Road and South 12th Street, in a Kohler-owned residential development immediately north of the Black River Trails State Park property; continues straight east crossing the Black River, and then south adjacent to the burial mounds to the approximate midline of the Kohler Property. The maintenance facility for Alternative D-3 is located on the upland area near the north edge of the State Park property south of the entrance route. This alternative would require an easement from the State of Wisconsin for the maintenance facility located within the State Park property.

Alternative D-4

The Alternative D-4 entrance route begins at the intersection of Stahl Road and South 12th Street, in a Kohler owned residential development immediately north of the State Park property. Alternative D-4 entrance route diverges from Alternative D-3, southeast across the State Park property, avoiding the burial mounds, and then east crossing the Black River. The maintenance facility for Alternative D-4 is located on the upland area near the north edge of the State Park property (same location as Alternative D-3). Alternative D-4 would require an easement from the State of Wisconsin for the entrance road and maintenance facility located within the State Park property.

Alternative D-5

The Alternative D-5 entrance route begins on South 12th Street, traverses the State Park property crossing wetlands, recreational trails, and the Black River near the midline of the Kohler Property. The maintenance facility is located in old field and degraded [REDACTED] of the entrance route. This alternative would require an easement from the State of Wisconsin for the entrance road and maintenance facility located within the State Park property.

Alternative D-6

Alternative D-6 begins on Beach Park Lane at the State Park property entrance, and travels north adjacent to and within portions of the east side of the Black River floodplain to the midline of the Kohler Property. Alternative D-6 does not impact State Park property recreational trails/areas, as the entrance route and maintenance facility are located in an area of the State Park property designated solely for park maintenance operations.

The maintenance facility is located east of the entrance route in the State Park property not typically utilized by the general public. This alternative would require an easement from the

State of Wisconsin for the entrance road and maintenance facility located within the south portion of State Park property.

Alternative D-7

Alternative D-7 begins at Timberlake Road located north of the existing Kohler Property. This alternative utilizes Kohler Property and requires no easement for use of State Park property. The road travels south within the Black River floodplain to the midline of the Kohler Property before turning east. The maintenance building is located to the furthest extent north on uplands within the Kohler Property in close proximity to the burial mounds. Alternative D-7 also routes guest and maintenance traffic through several residential neighborhoods.

Alternative E (Preferred Alternative)

Alternative E reduces the course layout footprint within the Kohler Property, minimizing environmental impacts to the extent practicable. This alternative relocates an approximately five-acre irrigation pond at the north portion of the Kohler Property out of the wetland complex near the Black River. The Alternative E entrance route and maintenance facility locations represent the least impact to wetlands, cultural resources, floodplain impacts, and avoid impacts to recreational areas of the State Park.

The Alternative E entrance route begins on Beach Park Lane at the existing State Park entrance, and travels north within portions of the east side of the Black River floodplain. The entrance route turns east at the Kohler Property and continues northeast. State Park recreational trails/areas are not impacted, as the entrance route and maintenance facility location would be located in an area of the park not typically utilized by the public. The maintenance facility is located east of the entrance route within the State Park property. Alternative E would require an approximate 4 acre easement from the State of Wisconsin for the entrance road and maintenance facility located within the south portion of State Park property.

2.5 CONSTRUCTION SEQUENCE AND SCHEDULE

2.5.1 Methods

Construction of the golf course is expected to begin with selective tree removal followed by phased construction of several holes simultaneously. It is expected that nine holes will be constructed and stabilized each year and that the overall construction process will take approximately 2 years.

Erosion and sediment control implemented during construction shall comply with the guidelines and requirements set forth in Wisc. Admin. Code Section NR 216, NR 151, and the WDNR Runoff Management Performance Standards. Technical Standards published by the WDNR shall also be utilized to implement the required performance standards. The methods and types of erosion control will be dependent on the location and type of work. All sediment control measures shall be adjusted to meet field conditions at the time of construction, and installed prior to any grading or ground disturbance.

2.6 EMISSIONS AND DISCHARGES

2.6.1 Air

Construction equipment including trucks, excavators, and bulldozers will be used to construct the Project. To reduce potential noise impact, construction equipment shall be operated in compliance with all applicable local, state and federal laws and regulations relating to noise

levels permissible within and adjacent to the Project. All motorized construction equipment will be required to have mufflers constructed in accordance with the equipment manufacturer's specifications or a system of equivalent noise reducing capacity. It will also be required that mufflers and exhaust systems be maintained in good working order, free from leaks or holes.

During normal operation of the golf course, daily traffic is expected to include passenger vehicles, and delivery trucks. Maintenance vehicles, both gas and diesel-fueled, will be used on the golf course.

A preliminary assessment of a typical golf course in the northeastern United States calculated 9,936.8 gallons of fuel (26.9 t Ce/yr) were used in an 8 month period for maintenance (Portness, 2008). In 2014, an 18-hole Kohler golf course used 4,133.6 gallons of gasoline and 3,422.95 gallons of diesel fuel for maintenance vehicles. Similar results are anticipated for the Project. Additionally, emissions and fuel use are minimized through an approximate 5 year capital equipment replacement program, which purchases new equipment with current air emission regulations and fuel use efficiencies. Bartlett et al. (2011), reported golf courses with a high percentage of trees would have a net carbon sequestration.

2.6.2 Hazardous Materials

The storage and handling of hazardous materials will be in accordance with all state and federal laws and regulations. Kohler does not anticipate the use or storage of materials that are not currently handled in the operation of its existing golf courses. Kohler has never been cited for environmental violations at its existing golf courses.

A fuel island located adjacent to the maintenance facility will consist of double lined, aboveground tanks with secondary containment. Safety bollards will be installed around the perimeter of the tanks and spill response kits readily available.

Pest management materials will be stored in an IPM control center. The IPM control center is a dedicated secure structure for the storage and mixing of pest control products. Spray equipment is stored and maintained within the control center and drainage occurs via a closed loop system with all materials being recycled and reused for their approved use per the product label.

2.7 MAPS, PLANS AND OTHER DESCRIPTIVE MATERIAL

The following materials are attached to this document in Appendix A:

| | |
|-------------|-------------------------------------------------------|
| Figure 1 | Project Location and Topography |
| Figure 2 | Project Location and Orthophotography |
| Figure 3 | Plat Map |
| Figure 4 | Zoning Map |
| Figure 5 | Wisconsin Wetland Inventory and NRCS Soil Survey Data |
| Figure 6 | Wetland Delineation and Floodplain Map |
| Figure 7 | Plant Communities Map |
| Figure 8 | Invasive Plant Species Map |
| Figure 9A | Project Alternative A |
| Figure 9B-1 | Project Alternative B-1 |
| Figure 9B-2 | Project Alternative B-2 |
| Figure 9C | Project Alternative C |
| Figure 9D | Project Alternatives D1-D7 |
| Figure 9E | Project Alternative E (Preferred) |

3.0 AFFECTED ENVIRONMENT

3.1 PHYSICAL ENVIRONMENT

3.1.1 Topography

The topography of the Kohler Property is nearly level to gently rolling with elevations ranging from approximately 582 feet above mean sea level (msl) to 595 feet above msl (Figure 1). The water level associated with Lake Michigan is approximately 580 feet above mean sea level (msl), and the base of the dunes is at 585 feet above msl and varies based on regional precipitation. The dune elevations rise from approximately 585 feet above msl to 595 feet above msl. Inland from the dunes, the land undulates between approximately 585 and 595 feet above msl. The Black River and its riparian wetlands are located approximately 584 feet above msl on the west limits of the Kohler Property.

3.1.2 Soils

The Kohler Property is dominated by sand and muck soils (Figure 5). Sand beaches along the lakeshore are bordered by sand dunes approximately 10 feet high. Soils along the Black River and riparian wetlands include Adrian, Palms and Houghton mucks. The remainder of the Property is mapped as Granby loamy fine sand, Oakville loamy fine sand, and Sisson very fine sandy loam. These three soil units have sandy B and C layers. The Adrian, Palms and Houghton mucks and Granby loamy fine sand units are rated hydric by the Natural Resources Conservation Service (NRCS), while the Oakville and Sisson units are not hydric.

3.1.3 Ground Water

A field study was completed to confirm the geological and hydrogeological characteristics of the Kohler Property. Ten wells were constructed at depths ranging from 25 to 500 feet. Based upon the well logs, dolomite bedrock begins approximately 120 feet below land surface (bls) and extends to a depth of approximately 500 feet bls. The bedrock is overlain with a confining layer of up to 90 feet of clay which is overlain by a layer of sand to the land surface.

Well monitoring and pump tests identified two separate aquifers on the Kohler Property. The shallow aquifer is located within the surficial sand layers between three feet bls to the underlying lacustrine clay. The shallow aquifer is hydraulically separated by the underlying clay deposit from the deep aquifer. The deep aquifer is located within the dolomite bedrock. The bedrock aquifer is artesian in nature and water elevations collected from wells screened within the bedrock aquifer were at the ground surface or, in some cases, overflowing the well casing.

While golf course irrigation is not anticipated to adversely impact the surrounding neighborhood, Kohler will develop a program with the Town of Wilson to mitigate potential impacts to adjacent private water supply wells, similar to the program that was successfully implemented at Whistling Straits.

3.1.4 Surface Water

The Project is located in the Black River watershed, a sub-watershed of the Sheboygan River watershed. The Black River originates near the Village of Oostburg, and flows east and north through agricultural land to the State Park and forms the western boundary of the Kohler Property. The Black River discharges into Lake Michigan within the City of Sheboygan approximately 1.25 miles north of the Kohler Property. In general, the bottom substrate consists

of sand, and the riparian buffer is mainly wetlands and woodlands. An unnamed tributary flows from South 12th Street in the northwest corner of the State Park property into the Black River.

Water quality in the Black River is poor (Galarneau, 2001). Primary land use in the watershed is agricultural lands. Residential areas are found in the upper and lower reaches near the Village of Oostburg and the City of Sheboygan. Polluted runoff and excessive sedimentation from agricultural land contributes to poor habitat for fish, macroinvertebrates and periphyton. In addition, the headwaters receive wastewater discharge from the Oostburg WWTP.

A water quality assessment was completed for a one-year period from October 2010 through September 2011 near Indian Mound Road; water samples were tested for nitrogen, conductivity, pH, dissolved oxygen, and total phosphorus (WDNR, 2014). Results were within a normal, expected range for flowing systems in Wisconsin except for total phosphorus. The current NR102 standard for total phosphorus in streams is a maximum of 75 ug/L. Water bodies with levels above this can be considered impaired. The sample results averaged 279 ug/L, over 3 times the maximum standard. The Black River is proposed to be listed on the 303(d) Impaired Waters List based on a degraded biological community due to high Total Phosphorus (WDNR, 2014b).

The Kohler Property is adjacent to Lake Michigan. The ordinary high water mark (OHWM) is currently defined as 582.7 feet above msl. The shoreline in this area consists of sand beaches and adjacent dunes.

3.1.5 Floodplain

The west limits of the Kohler Property follows the centerline of the Black River. The Black River floodplain has been evaluated for this Project from its confluence with Lake Michigan to Beach Park Road (the main entrance to Kohler-Andrae State Park). According to the Flood Insurance Study for Sheboygan County published by the Federal Emergency Management Agency (FEMA) in 2009, the Black River has a tributary area of 18.3 square miles and a peak discharge of 2,500 cubic feet per second during the 100-year flood event. The Black River flows from south to north and has a 100-year flood event elevation of 589.48 feet above msl at the southern Project limits and decreases to 588.65 above msl when it reaches the north Project limits (Figure 6).

Under normal conditions, this segment of the Black River is a narrow stream that is less than 25 feet wide and five feet deep. It has an approximate normal water surface elevation of 582.00 feet above msl and is bordered on both sides by a wide, level riparian wetland complex with a width that ranges from approximately 300 feet to 1,300 feet.

3.1.6 Air

According to the U.S. Environmental Protection Agency (EPA), Sheboygan County is identified as a "nonattainment" area for ground-level ozone. This area does not meet the EPA's 2008 8-hour ozone national air quality standard (75 parts per billion; EPA 2014). Sheboygan County meets all of the other national air quality standards, including sulfur dioxide, carbon dioxide, and particulates.

3.2 BIOLOGICAL ENVIRONMENT

The Kohler Property and State Park property contain a diverse assemblage of natural plant communities. Vegetation sampling efforts in 2014 recorded 288 plant species and mapped thirteen plant communities on the Kohler Property and State Park property (Stantec, 2014b). Figure 7 shows the plant community locations.

3.2.1 Terrestrial Habitat

The Kohler Property and State Park property contain several terrestrial plant communities. The beach, dune, and ridge and swale communities are found near the Lake Michigan lakeshore, while the northern dry forest/pine plantation, [REDACTED] northern dry forest and old field are found further inland.

The beach community occurs in the narrow band adjacent to Lake Michigan, and is comprised of two zones: the lower beach and the upper beach. The lower beach community is directly affected by wave action and is characterized by a lack of perennial vegetation cover, the presence of drift, and the occurrence of annuals, including [REDACTED]. This community is affected by fluctuating lake levels and waves associated with storm events. The upper beach includes a zone elevated several feet above the beach that is stabilized by perennial vegetation, including grasses, willows (*Salix* spp.) and cottonwood (*Populus deltoides*).

The dune community is the dominant plant community along the lakeshore above the normal water level. This community is characterized by xeric conditions, little to no soil development, and substrate consisting of dry sand. The landforms consist of windblown dunes up to approximately 10 feet in height. The dunes are partially stabilized by herbaceous vegetation, including perennial grasses. Scattered shrubs include common and creeping junipers (*Juniperus* spp.). Areas of unstabilized sand provide habitat for annual dune species, including [REDACTED]. These populations are found along the Kohler Property lakeshore.

The forested dune community occurs on older stabilized dunes to the west of the dune community. The forested dunes are characterized by a relatively high cover of woody vegetation, including an understory of juniper species and perennial graminoids and forbs; and a canopy of trees dominated by red pine (*Pinus resinosa*). Soil development is poor, with the substrate consisting of sand. Notable plant species observed in this community include white camas (*Zigadenus elegans* subsp. *glaucus*) [REDACTED].

The majority of the Project west of the lakeshore and east of the Black River, consists of a northern forest complex on sandy upland. The topography is gently rolling, with longitudinal ridges running generally north-south, parallel to the lakeshore. This area has variable microtopography and vegetation ranging from dry mesic to mesic. The forest canopy is mature with approximately 75 to 100 percent cover on average. Numerous trees throughout the forest habitat have been blown over from the lakeshore winds and poor soil stability. Canopy dominants include white pine (*Pinus strobus*), red oak (*Quercus rubra*) and sugar maple (*Acer saccharum*). Understory vegetation is consistent with [REDACTED] groundlayer, with dominant species including Pennsylvania sedge (*Carex pensylvanica*) and clubmoss (*Lycopodium obscurum*). The forest canopy and vegetation integrity is higher toward the west, and the presence of weedy and invasive species, especially Japanese barberry (*Berberis thunbergii*) is more pronounced toward the east. The understory is open, with a lack of tree saplings, showing evidence of significant deer browse in this community. No rare species were noted within this community.

Degraded [REDACTED] occurs between the old field and degraded hardwood swamp on the State Park property. This community is an early successional forest resulting from recent natural establishment of pioneer forest species within an old field. Canopy dominants include black cherry (*Prunus serotina*), green ash (*Fraxinus pennsylvanica*), and

paper birch (*Betula papyrifera*). The understory is brushy with blackberry (*Rubus allegheniensis*) and invasive species such as bush honeysuckle (*Lonicera tartarica*), multiflora rose (*Rosa multiflora*), and common buckthorn (*Rhamnus cathartica*). No rare species were noted within this community.

The pine plantation occurs on an extensive area of the southwest portion of the Kohler Property, on dry uplands. The canopy is dominated by a mature stand of planted red pine, with a lesser component of white pine and Norway spruce (*Picea abies*). The groundlayer consists of [REDACTED] herbaceous species with areas of dense invasive Japanese Barberry which forms an impenetrable thorny tangle. Pockets of open canopy occur within the pine plantation that are consistent with dune or forested dune vegetation. No rare species were noted within this community.

A section of the southeast portion of the Kohler Property is composed of northern dry forest, on irregular, rolling terrain composed of stabilized sand dunes. The vegetation is characterized by an open tree canopy of less than 50 percent coverage, with canopy dominants including white pine and paper birch. The groundlayer is dominated by Pennsylvania sedge and common juniper. No rare species were noted within this community.

3.2.2 Aquatic Habitat

The Black River is classified as a limited forage fishery. Fish sampling done in 2000 downstream of CTH KK at river mile 7.5 identified six species of fish; all but one rated tolerant or very tolerant to poor water quality (Galarnau, 2001). Macroinvertebrate sampling upstream of CTH KK in 2010 found 26 species indicating poor water quality and a likelihood of significant organic pollution (WDNR, 2014a). Six native aquatic plant species were observed within the Black River channel, including typical emergent, floating and submerged species found throughout the region. There are no known occurrences of rare aquatic species associated with this segment of the Black River.

3.2.3 Wetland Habitat

Wetlands on both the Kohler Property and State Park property were delineated by Jeff Kraemer of Stantec, a WDNR-approved Assured Wetland Delineator. The delineation was completed in September and October of 2014. WDNR and USACE staff completed a field review and approved the assured delineation approach on October 17, 2014. The proposed access road through the State Park property south of the Kohler Property avoids the wetlands indicated by WWI (Figure 5) and as delineated by WDNR staff in 2013.

The delineation identified 81 wetlands on the Kohler and State Park property, ranging from small pocket wetlands to an extensive riparian wetland complex associated with the Black River (Figure 6). On the east limits of the Kohler Property, [REDACTED] and ridge and swale wetlands (5.24 acres) exist within pockets and swales between the dunes, parallel to the shoreline. On the west limits of the Kohler Property and extending onto the State Park property, an [REDACTED] along the Black River and tributary corridors (118.18 acres).

Wetland functional values were assessed using the Wisconsin WDNR Rapid Assessment Methodology for the nine wetland community types identified (Figure 7). Three wetland types were identified as having degraded conditions. Six wetland types were identified as high functional value. The wetland functional assessments are available in the Stantec Wetland Delineation Report (Stantec, 2015).

_____ occurs in concave swale landforms parallel to the lakeshore, located between elevated dunes. _____ are found in several locations in the southeast corner of the Kohler Property, approximately 200 feet from the Lake Michigan shoreline. This community type is characterized by substantial tree canopy, notably by red pine. Species composition includes a mix of hydrophytic and non-hydrophytic vegetation. These wetlands are characterized by seasonally saturated soil, and normally dry out later in the growing season. _____

The ridge and swale wetland community occurs in the upland forest complex, within swales parallel to Lake Michigan. These wetlands consist of a mix of wet meadow vegetation, with lesser components of forested wetland and _____. They include a variety of conditions from exposed to shaded, year-round to seasonal saturation, and within linear swales and isolated depressions. Dominant vegetation consists of bluejoint grass (*Calamagrostis canadensis*), stinging nettle (*Urtica dioica*), reed canary grass (*Phalaris arundinacea*), and tussock sedge (*Carex stricta*). Occasional green ash (*Fraxinus pennsylvanica*) trees occur within this wetland type. Areas of tag alder (*Alnus incana*) occur within this wetland type, forming pockets of _____. No rare species were noted within this community. _____

The _____ forms extensive areas within the Black River floodplain and tributary stream. The community is characterized by the dominant shrub species, tag alder, and a perennially saturated substrate. Occasional trees of green and black ash (*Fraxinus nigra*) occur within the _____ but do not exceed 30 percent canopy. Common groundlayer species include forget me not (*Myosotis scorpioides*), water horehound (*Lycopus uniflorus*), and reed canary grass. Areas of degraded _____ occur on the northwest portion of the State Park property and are dominated by non-native and invasive herbaceous species including garlic mustard (*Alliaria petiolata*), dame's rocket (*Hesperis matronalis*), and forget-me-not. No rare species were noted within this community.

The wet meadow community occurs within the Black River floodplain, along the river banks, sometimes forming extensive corridors. The wet meadow consists of two types: high quality wet meadow consisting predominantly of native sedges and grasses; and degraded wet meadow that is dominated by reed canary grass. Common species within the wet meadow include bluejoint grass, lake sedge (*Carex lacustris*), broad-leaved cat-tail (*Typha latifolia*), swamp milkweed (*Asclepias incarnata*), water horehound, and wild mint (*Mentha arvensis*). Degraded wet meadow occurs along the Black River corridor and in wetland locations on the State Park property. This community is dominated by reed canary grass, and may have isolated trees and shrubs scattered within its mapped area. No rare species were noted within this community.

The hardwood swamp community forms extensive stands within the Black River floodplain, and also smaller areas within isolated depressions, and along tributary streams. The community is characterized by a tree canopy dominated by green ash and black ash. Trees in this community have been blown over from the lakeshore winds, high water table and poor soil stability. The understory varies from brushy to relatively open, with tag alder often forming a shrub layer. Common ground layer species include bottomland aster (*Symphotrichum ontarionis*), water horehound, white avens (*Geum candense*), and bristly buttercup (*Ranunculus hispidus*). Degraded hardwood swamp areas were also observed with a predominance of invasive shrub species and garlic mustard. No rare species were noted within this community.

The seepage slope hardwood swamp community occurs in narrow bands along the upslope edge of wetlands on either side of the Black River, in the transition zone from hardwood swamp

to [REDACTED] The community is characterized by a mature tree canopy of yellow birch (*Betula alleghaniensis*), green ash, beech (*Fagus grandifolia*), sugar maple, and red maple (*Acer rubrum*), and an open understory with lady fern (*Aspidium angustum*), skunk cabbage (*Symplocarpus foetidus*), bristly buttercup, woodreed (*Cinna arundinacea*), ostrich fern (*Matteuccia struthiopteris*), and sensitive fern (*Onoclea sensibilis*). The community occurs on a gradually sloping landscape position, somewhat elevated above the Black River floodplain and is characterized by groundwater discharge. The trees in this community show morphological adaptations, such as buttresses and shallow roots, as a response to shallow water table. No rare species were noted within this community.

3.2.4 Fauna

Incidental wildlife observations were recorded during on-site biological survey events. Raptor and [REDACTED] surveys were also completed for this Project. Table 3-1 lists the wildlife observed, excluding threatened and endangered species which are summarized in biological survey reports provided under separate cover.

Table 3-1. 2014 Wildlife Observations on the Kohler and State Park Properties

| SCIENTIFIC NAME | COMMON NAME |
|-------------------------------|-------------------------------|
| <i>Pseudacris crucifer</i> | Spring Peeper |
| <i>Lithobates sylvaticus</i> | Wood frog |
| <i>Ambystoma laterale</i> | Blue-spotted salamander |
| <i>Plethodon cinereus</i> | Eastern red-backed salamander |
| <i>Chelydra serpentina</i> | Snapping turtle |
| <i>Thamnophis sirtalis</i> | Common garter snake |
| <i>Odocoileus virginianus</i> | White-tailed deer |
| [REDACTED] | [REDACTED] |
| <i>Dryocopus pileatus</i> | Pileated woodpecker |
| <i>Poecile atricapillus</i> | Black-capped chickadee |
| <i>Strix varia</i> | Barred owl |
| <i>Accipiter cooperii</i> | Cooper's hawk |
| <i>Buteo jamaicensis</i> | Red-tailed hawk |
| <i>Bubo virginianus</i> | Great Horned Owl |

The 2013 Christmas Bird Count for Sheboygan noted 50 species, and the Wisconsin Breeding Bird Atlas lists 41 probable and 15 confirmed species for the Sheboygan South survey area.

The amphibian species observed are typical woodland dwellers. The red-backed salamander (*Plethodon cinereus*) uses wooded upland habitats whereas the blue-spotted salamander (*Ambystoma laterale*), the spring peeper (*Pseudacris crucifer*), and the wood frog (*Lithobates sylvaticus*) depend on wetlands for breeding and wooded uplands for foraging and hibernation.

3.2.5 Threatened, Endangered, and Rare Species

Kohler submitted an Endangered Resources Review request to WDNR on August 26, 2014, and to the USFWS on October 3, 2014. Several species of concern were identified as potentially occurring on the Kohler Property and State Park property. Extensive surveys for species of

concern were conducted on the property between 2011 and 2014. When species of concern were observed on-site, their locations were mapped using a sub-meter accuracy Global Positioning System (GPS) device. Additional results from the [REDACTED] and plant surveys are described in the Stantec Technical Memo Botanical Survey (Stantec, 2014b) and the Stantec Technical Memo [REDACTED] Surveys (Stantec, 2014c).

The surveys encountered no evidence of active or historical [REDACTED] on the Property. Surveys encountered the presence of the [REDACTED] in areas outside of proposed development along the Lake Michigan shoreline. The avoidance of the [REDACTED] and its habitat will also protect [REDACTED] which were not observed but are known to occupy similar habitat.

Populations of [REDACTED] were observed on the Kohler Property with the vast majority occurring in areas outside of proposed development. The potential for minor impacts from the project exists. Although State threatened, endangered, and special concern plants are not protected on private property, Kohler will work with the WDNR to develop mitigation, such as transplanting individual plants to suitable habitat or establishing new populations in suitable areas.

3.2.6 Invasive Plant Species

Invasive plant species, including species listed as Restricted under Wisconsin's Invasive Species Rule (NR 40) were found throughout the Kohler Property and State Park property, as shown on Figure 8. Japanese barberry was widespread in terrestrial habitats, ranging from 70 percent cover in the forests near the southern border of the Properties, to 5 to 10 percent cover throughout the majority of the [REDACTED] forest on the Kohler Property. Reed canary grass was widespread throughout the degraded wet meadow and [REDACTED] associated with the Black River, ranging from 5 to 20 percent cover. Multiflora rose was found throughout the degraded hardwood swamp on the State Park property. Japanese knotweed (*Polygonum cuspidatum*) was found in a localized area near the northwest corner of the State Park property. Other invasive species included bush honeysuckle, garlic mustard, and dame's rocket. Purple loosestrife (*Lythrum salicaria*) was not observed.

3.3 CULTURAL ENVIRONMENT

3.3.1 Land Use

The Kohler Property is undeveloped and has been privately owned by Kohler for more than 75 years. The Property's land use is governed by the Town of Wilson. The Kohler Property and the State Park property are zoned P-1 Parks and Recreation. Golf courses are allowable in the P-1 zoning as conditional uses, and an application for a conditional use permit has been submitted to the Town of Wilson. The neighborhoods to the north and west are zoned R-1 Single Family Residential, while the properties to the southwest are zoned A-2 Agricultural. The State Park property to the south is also zoned P-1 Parks and Recreation (Figure 4).

Kohler originally acquired a total of approximately 468 acres in the vicinity during the 1930's. In 1965, 221 acres were donated by Kohler to the State of Wisconsin for the creation of the John Michael Kohler State Park. The remaining 247-acre parcel was also leased to the State in 1965 for a 10-year period.

The State Park borders the Kohler Property to the south and west (Figure 3). The Kohler Park Dunes State Natural Area is contained within the State Park, bordering the lakeshore.

Another 18-hole public golf course, Riverdale Country Club, is located approximately one-half mile west of the Kohler Property, on the west side of 12th Street. Riverdale has co-existed within one-mile of Lake Michigan, along a tributary to the Black River and surrounded by increasing numbers of residential and agricultural neighbors since its opening in 1929.

The Town of Wilson owns a parcel of conservation property adjacent to the northern boundary of the Kohler Property. The Robert Balzer and Ruth Balzer-Schmitt Wilderness Park is a mesic forest dominated by white pine, with secondary dominants of oaks, maples, birch and beech.

Kohler is requesting an easement from the State of Wisconsin for approximately 4 acres of State Park property adjacent to the existing State Park entrance road and maintenance facility. This area of the State Park property is not typically utilized by the public and, therefore, avoids impacts to recreational areas of the State Park.

Kohler has had discussions with representatives of the adjacent Timberlake Subdivision regarding an easement that would allow pedestrian lake access. In connection with developing the golf course, Kohler would allow such access in a manner that does not interfere with the golf course operation.

3.3.2 Traffic

A traffic study was completed to determine the traffic impacts of the proposed golf course (Excel, 2014b). The State of Wisconsin rates the functionality of intersection movements based upon their Level of Service (LOS). In 2012, the State Park had the fifth highest number of visitors (418,373) of all the Wisconsin State Parks (State of Wisconsin, 2013). The LOS for an intersection or traffic movement is calculated in a range from A to F. LOS D is the minimum acceptable value.

The traffic study concludes that all proposed traffic movements at the intersection of CTH V and Beach Park Road will operate at a LOS B or better. The study also shows that all movements at the proposed golf course entrance location to Beach Park Road will operate at LOS A. In both cases, the LOS significantly exceeds the minimum acceptable value. The Level of Service calculations were based upon the existing road intersection configuration. Therefore, no significant improvements were required as a result of the proposed golf course traffic.

To improve circulation, Kohler is proposing to modify the State Park entrance area by adding a roundabout. Two lanes would be dedicated for entry to State Park visitors while golf course and exiting State Park traffic would be routed through the roundabout. Kohler would fund the entire cost of the enhancements.

3.3.3 Socio-economic

Recreation and Tourism

In 2000, Sheboygan County was ranked 7th of golf destinations in the world. This is largely due to the four golf courses developed by Kohler and designed by Pete Dye – Whistling Straits and Blackwolf Run. Blackwolf Run consists of the River Course and the Meadow Valleys Course.

Whistling Straits consists of the Straits Course and the Irish Course. All four courses are ranked in the top 100 public golf course list in Golf Digest Magazine's 2015/2016 issue (Whitten, 2015). The Straits course was ranked 4th in the U.S. An estimated 40,000 visitors play 100,000 rounds in Sheboygan County each year (SB Friedman, 2015).

Sheboygan County contains multiple trail systems with various uses including: hiking, cycling, skiing, and snowmobiling. The county itself maintains about 228 miles of public snowmobiling Trails (Sheboygan County, 2015). Other popular trails include the Old Plank Road Trail, Interurban trail, and the newly constructed Shoreland 400 Rail Trail. The Project site itself contains multiple primitive trails which historically have been used by area residents. These trails have provided recreational opportunities for many years but are currently restricted from public use.

Lake Michigan and a number of inland lakes and county parks located within Sheboygan County provide a variety of recreational activities such as: fishing, boating, bird watching, swimming, canoeing, and kayaking. While the county only maintains six public access areas, there are a number of access areas maintained by other jurisdictions (Sheboygan County, 2015). Lake Michigan provides significant tourist opportunities mostly in the form of sportfishing. Lake Michigan is a prime destination for open water trout and salmon fishing. Sheboygan County hosts 10 charter fishing companies.

In addition to the lakes, Sheboygan County contains parks and natural areas such as Gerber Lake Wildlife Area, Esslingen Park, Roy Sebald Sheboygan River Natural Area, and Amsterdam Dunes. Amsterdam Dunes includes a 333 acre preserve along Lake Michigan and is also being developed as a wetland mitigation bank by Sheboygan County. These parks and natural areas along with the State Park provide the community and tourists with significant outdoor opportunities.

Employment, Labor Force, and Income

According to the 2010 census (U.S. Census, 2010), the population of employed civilian citizens over the age of 16 in the Town of Wilson, Wisconsin was 1,797 (Table 3-3). Median household income is also greater in Wilson than Wisconsin or the U.S. (\$83,311, \$52,413, and \$53,046 respectively). Employment in the Town of Wilson, City of Sheboygan, and Sheboygan County is predominantly in the manufacturing sector (greater than 30 percent). Educational and health care sectors employ greater than 15 percent of the workforce followed by the retail sector (approximately 10 percent).

Table 3-3. Employment and Income Comparison (2010)

| LOCATION | POPULATION | CIVILIAN LABOR FORCE | MEDIAN HOUSEHOLD INCOME ¹ |
|-------------------|-------------|----------------------|--------------------------------------|
| Town of Wilson | 3,330 | 1,797 | \$83,311 |
| City of Sheboygan | 49,288 | 26,873 | \$43,533 |
| Sheboygan County | 115,507 | 28,131 | \$52,920 |
| Wisconsin | 5,686,986 | 2,872,104 | \$52,413 |
| United States | 308,745,538 | 138,668,798 | \$53,046 |

¹2010 Census data not available 2009-2013 American Community Survey 5-year estimates used for comparison

Source: U.S. Census Bureau 2010 and 2013 American Community Survey

3.3.4 Historical and Archaeological

An archaeological study began on the Kohler Property in Summer of 2014 including a visual inspection, shovel tests (10 meter interval), geomorphology investigations, and test excavation pits.

Burial mounds are known to exist near the northwest corner of the Kohler Property and therefore golf course development in this area has been avoided. No additional human remains or burial mounds were discovered during the 2014 survey.

The archaeological study is scheduled to resume in spring of 2015 dependent on weather. Consultation meetings with the WDNR, USACE, and the SHPO are planned upon completion of the study.

3.3.5 Visual and Aesthetic

The Kohler Property is dominated by two scenery types within the gently rolling topography: closed canopy forest and the dunes/lakeshore area. The dunes are vegetated with a fringe of tall trees, ground-hugging junipers, and low dune grasses, allowing a clear, long view of Lake Michigan. The dunes and the lakeshore include areas of non-vegetated and partially vegetated sand. The forest transitions to a pine plantation on the south limits of the Kohler Property, and into an [REDACTED] along the Black River which is dominated by tall shrubs and thick herbaceous vegetation.

The Kohler Property is undeveloped and does not contain structures. Adjacent buildings and fencing, constructed by neighboring property owners along the north and south property lines, are visible on the Property's perimeter. Access on the property is limited to private walking trails.

The lakeshore portion of the Kohler Property has forests and dune areas. The area is primarily visible from Lake Michigan and from the adjoining residential and State Park property. The Property has limited visibility from the west.

Kohler's golf course design philosophy is not to compromise the property's natural features but instead incorporate them with minimalist design intended to highlight the natural contours, native flora and fauna, and maintain the natural lakeshore and dune communities. Development of a golf course will preserve enhanced natural vistas, free from significant structures, for the foreseeable future.

3.4 OTHER SPECIAL RESOURCES

Coastal management in the Great Lakes region is a Federal-State partnership established by the 1972 Coastal Zone Management Act (CZMA). Administered by the National Oceanic and Atmospheric Administration (NOAA), the program provides States financial and technical assistance to develop and implement their own coastal zone management programs. The Wisconsin Coastal Management Program is administered by the Department of Administration (DOA), Bureau of Intergovernmental Relations. According to NOAA, Wisconsin's coastal zone consists of 15 lakefront counties and approximately 820 linear miles of shoreline.

According to the WDNR, the Sheboygan County lakeshore is part of the Central Lake Michigan Coastal Ecological Landscape which extends from Milwaukee County north to Door County. The Kohler Park Dunes State Natural Area, located within the State Park property, is part of this regional landscape. The State Natural area consists of a linear forest zone along Lake Michigan that contains a mixed pine-hardwoods dune forest community dominated with white pine, red

oak, white birch, beech, and sugar maple. This is the largest dune complex on Wisconsin's western shore of Lake Michigan and provides habitat for species associated with the Great Lakes shorelines.

The Kohler Property is within the Harrington Beach-Kohler-Andrae Lakeshore Migration Corridor, an important bird area (IBA). This migration corridor extends from Sheboygan south to Port Washington in Ozaukee County. It encompasses Harrington Beach and Kohler-Andrae State Parks, Cedar Grove Hawk Research Station State Natural Area, and the Forest Beach Migratory Preserve. This IBA contains a variety of habitats including open Lake Michigan waters, sand beach, cool-season grasslands, upland deciduous forest, lowland forest of white cedar and black ash, and shrublands.

Many birds utilize this IBA as migratory stopover and wintering habitat. In winter the open waters host large rafts of diving ducks such as red-breasted merganser (*Mergus serrator*), bufflehead (*Bucephala albeola*), and common goldeneye (*Bucephala clangula*), as well as loons (*Gavia* spp.) and grebes (*Podiceps* spp.). Shorebirds are found on the sandy beaches and a wide variety of landbirds use the woodlands and shrubby areas in both spring and fall. Short-eared owls (*Asio flammeus*) are found occasionally in the grasslands during the winter. Raptors migrate along the lakeshore in large numbers (Wisconsin Bird Conservation Initiative, 2014).

3.5 HAZARDOUS MATERIALS

The WDNR Bureau of Remediation and Redevelopment Tracking System (BRRTS) does not identify any sites on the Kohler or State Park Properties. The nearest identified releases are approximately one mile to the north and west and are both shown to be remediated and closed.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 PHYSICAL

4.1.1 Topography

The existing topography of the Kohler Property will be retained as much as possible. The Project will not compromise the Property's natural features but instead integrate the existing dunes and natural contours into the course design. Surface water drainage patterns are not anticipated to be altered significantly during construction. Due to the permeable sandy soils, storm water runoff will be managed near the source within biofiltration areas.

4.1.2 Soils

Native soil on the Kohler Property is well suited for construction of a golf course. The native sand requires minimum site grading and overall disturbance will be minimized to the narrow fairway and rough playing areas in contrast to mass grading and importing sand to improve drainage typically required for courses constructed on less permeable soil types. The site construction is intended to balance material use and off-site disposal is not anticipated. Imported soil may include topsoil for turf areas and specialized soil mix for green and tee construction. The remaining trees and vegetation will be protected from soil compaction ensuring they become part of the final golf course design and experience.

4.1.3 Ground Water

As further described in Section 3.1.3, a ground water study was completed to determine the potential impact associated with providing irrigation for the golf course on the neighboring residential wells (Stantec, 2014a). The planned irrigation requirements were based upon the 18-hole historical irrigation volumes used at Kohler's Blackwolf Run and Whistling Straits Golf Course. These courses were chosen for comparison because of their shared conditions and proximity to the Kohler Property. Based upon the historical irrigation information, irrigation system flow rates up to 1,500 (gpm) and long term average volumes of 15,000,000 to 25,000,000 gallons per year can be anticipated. The average pumping volume during the peak months of the last seven years at the Kohler golf courses was 190,000 gallons per day (gpd) per 18-holes, with a peak of 334,000 gallons gpd during the driest months of the 2012 drought. These values were used to analyze the anticipated impact of the irrigation system.

To complete the study, two pump tests were completed to determine the regional ground water elevation drawdown associated with pumping from the bedrock aquifer. The tests were completed utilizing a well located in the southeast corner of the Kohler Property as a pumping well and by monitoring nine additional wells located at varying distances from the pumping well. The pumping well is an 8-inch diameter well with a practical pumping limit of 450 – 500 gpm. Therefore, a 72-hour constant head rate pump test was completed at 450 gpm along with a step drawdown test.

Based upon the pumping test and analysis, it was determined that the drawdown associated with a 72-hour pumping test at 450 gpm does not exceed the allowable drawdown typically provided for in the neighboring wells.

The impact associated with pumping during an average year or a drought year similar to 2012 at 450 gpm is not anticipated to adversely impact the surrounding neighborhood.

The regional wetlands are not anticipated to be impacted by the drawdown associated with the irrigation well. Similarly, any domestic wells installed within the shallow aquifer (such as sand point wells) are not anticipated to be impacted.

In the event that an adjacent well was constructed with less than the typical allowable drawdown, it may become necessary to lower the pump elevation within the existing well casing to provide additional allowable drawdown. Due to the artesian nature of the aquifer and the depth necessary to construct a well within the bedrock aquifer, this is considered a minor modification that would not necessitate additional drilling. Kohler will develop a program with the Town of Wilson to mitigate potential impacts to adjacent private water supply wells. A similar program was successfully implemented at Whistling Straits.

4.1.4 Surface Water

Due to the minimal amount of impervious surface associated with a golf course, along with a commitment to incorporate the existing topographic features and infiltrate 100 percent of the storm water runoff, all as further described in Section 3.1.4 above, there is not expected to be an impact to surface water.

The Project will create a new surface water feature, an approximately 5-acre irrigation pond supplied with water from the bedrock aquifer. The pond will be lined to prevent loss to the sandy soils. This pond is considered a beneficial feature to wildlife and aesthetics, similar to constructed ponds on other Kohler golf courses. The design will consider BMPs to create and protect surface water quality in the pond while fulfilling the role of irrigation storage.

The storm water detention basins may temporarily hold water during large storm events, but will be designed to infiltrate or drain quickly, so no new permanent surface water features will be created as a result of storm water management.

There will be no surface water impacts to the Black River or Lake Michigan, as described in Section 4.2.2.

4.1.5 Floodplain

A floodplain study has been completed to assess the potential impact to the Black River floodplain elevation due to the several small areas of construction for the golf course and the entrance road. The floodplain study was completed using HEC-RAS modeling software. Based upon the analysis, localized nominal increases in the floodplain are expected on the Kohler Property and the State Park property. Based upon the study, floodplain impacts are not expected to affect adjacent properties. The impact varies along the length of the Black River, as detailed in Table 4-1.

Table 4-1. Project Black River Floodplain Changes

| LOCATION | EXISTING FLOODPLAIN ELEVATION (FT) | PROPOSED FLOODPLAIN ELEVATION (FT) | DIFFERENCE (FT) |
|-------------------|------------------------------------|------------------------------------|-----------------|
| Beach Park Road | 589.82 | 589.83 | +0.01 |
| Southern Lot Line | 589.48 | 589.49 | +0.01 |
| Northern Lot Line | 588.65 | 588.65 | +0.00 |

4.1.6 Storm Water

A storm water management plan will be developed for the golf course to meet the Town of Wilson and WDNR storm water requirements as described in Section 2.3.8. In addition to meeting the quantitative runoff requirements, the following procedures will be followed:

- Impervious surfaces will be kept out of protective areas to the maximum extent practicable, generally defined as 75 feet from lakes and 50 feet from wetlands.
- Storm water runoff from parking areas and roadways will be treated for TSS removal prior to infiltration.
- Storm water runoff from fueling and maintenance areas will not be infiltrated. These areas shall have BMPs designed, installed, and maintained to reduce petroleum in the runoff.
- A separation of five feet will be provided from the bottom of any infiltration device collecting storm water from a roadway or parking lot to the seasonal high ground water elevation.
- The Project will not result in a direct discharge of storm water to Lake Michigan, the Black River, or wetlands.
- A separation of one foot will be provided from the bottom of any infiltration device collecting storm water from a roof top to the seasonal high ground water elevation.

Upon completion, the following operations and maintenance procedures will be implemented (Table 4-2).

Table 4-2. Storm Water Operations and Maintenance Procedures

| STORM WATER FACILITY | TYPE OF ACTION |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Lawn and Landscaped Areas | All lawn areas shall be kept clear of any materials that block the flow of storm water. Rills and small gullies shall immediately be filled and reestablished with native vegetation. |
| 2. Swales | All swales showing signs of erosion, scour, or channelization shall be repaired, reinforced, and re-vegetated immediately. All swales shall be repaired to the original plan requirements. |
| 3. Filter Strips (Within Existing Soils) | The area directly over the infiltration areas draining impervious areas shall be regularly inspected for any type of settling or clogging that may take place. Any failed areas showing signs of degradation shall be restored to the original plan requirements. |
| 4. Biofiltration Basin | During the first 2-3 months of establishment, the basin will require, at a minimum, watering on a weekly basis depending on weather. Visual inspections of the basin shall be performed annually at a minimum. Maintenance shall be required when standing water occurs 3 days after a rain event. Maintenance shall consist of the removal of sediment, and a 2 foot undercut. Replace the undercut material with 1/3 topsoil, 1/3 compost, and 1/3 sand. Restoration of plant material shall be by plugging 1 native perennial per square foot, not by seeding. In the spring of each growing year, dead vegetation shall be removed to allow for new growth. At least 2 times during the growing season, the basin will be weeded and additional hardwood mulch shall be added as needed to assist in weed suppression. |
| 5. Catch Basin/Curb Inlet Grates | The grate openings to these structures must be cleared periodically of any clogging or the blocking of storm water flow from getting into the storm water conveyance system of any kind. |
| 6. Catch Basin/Curb Inlet Sumps | Sumps shall visually be inspected every 3 months. Siltation shall be removed and disposed of offsite when the sump depth is within 3 inches of the outlet pipe invert elevation. The removal of siltation should occur a minimum of once per year. |
| 7. Oil/Grease Filter Insert | Maintenance shall be in accordance with the manufacturer's guidelines, which at a minimum shall be 3 inspections per year, 3 cleanings per year, and 1 filter replacement per year. More specifically, debris shall be removed and the filter medium shall be replaced any time the filter medium appears to be 50 percent coated with oil and grease. |
| 8. Record of Maintenance | The operation and maintenance plan shall remain onsite and be available for inspection when requested by Town of Wilson or WDNR. When requested, the owner shall make available for inspection all maintenance records to the department or agent for the life of the system. |

Implementation of the measures described in this section are expected to minimize impacts associated with storm water runoff.

4.1.7 Domestic Wastewater

Domestic wastewater from the club house, cart building, maintenance building and rest stations will be provided via private on-site wastewater treatment systems (POWTS). Based upon soil tests completed, the native sandy soils are suitable for conventional septic systems. The systems will be located adjacent to each structure they serve in locations that topographically provide sufficient separation between the bottom of the system and the shallow groundwater table. There is no adverse impact anticipated as a result of these systems.

4.1.8 Air

The Property is located in a nonattainment area and operation of the golf course is not expected to significantly contribute to long-term increases in air emissions. There is not expected to be a concentration of vehicles associated with daily golf course operations and minimal vehicles will be using the Property during winter months when the golf course is closed.

The Project is expected to have intermittent and temporary air emissions during construction. In the long term, there will be a negligible increase in emissions from staff, guests, delivery and maintenance vehicles. Projected traffic volumes are not expected to impact air quality.

Because the Project is in the planning phases, projected carbon sequestration has not been determined. Selective removal of trees on the Kohler Property will allow the Kohler Property to continue to sequester carbon. Research shows that turfgrass also sequesters carbon (USDA 2003). Carbon equivalent emissions from vehicle fuel use, nitrogen fertilizer manufacture and application, and irrigation pumping lower the carbon sequestration potential of the Project. The carbon balance can be shifted toward net sequestration by retaining woody and native vegetation and investment in course-wide energy efficiency technologies.

4.2 BIOLOGICAL

4.2.1 Terrestrial

Kohler's investigation of terrestrial habit is outlined in Section 3.2.1 above. Construction and operation of the golf course will affect approximately 50 percent of the existing upland plant communities, including [REDACTED] pine plantation, and forested [REDACTED] communities. The existing habitat will be replaced with turfgrass and other site features including an approximately 5 acre irrigation pond which will provide open water habitat that does not currently exist.

The remaining 50 percent of the existing upland habitat will be preserved and remain located predominantly between golf course features, increasing forest edge habitat. The native flora and fauna are essential features of the golf course design and playing experience.

A secondary effect of tree removal may favor encroachment of invasive plant species. Potential indirect impacts may occur from importing soil from off-site sources possibly transporting invasive species. To maintain native habitat, invasive species will be monitored and managed through invasive species control efforts that will restore the remaining habitat to its natural state while likely increasing the biodiversity in these areas.

Potential indirect impacts to terrestrial habitat during operation of the golf course may include foot traffic from golfers. Signage will be incorporated into site operations to minimize traffic in sensitive areas.

4.2.2 Aquatic

There are no anticipated environmental impacts to aquatic resources. The Black River will be buffered from the golf course by the expansive riparian wetlands, and there will be no surface water withdrawals for irrigation. Because of high soil permeability, surface water runoff inputs to surface waters will be minimized.

4.2.3 Wetlands

4.2.3.1 Impacts of Alternative Designs

Kohler's wetland delineation process is described in Section 3.2 above. During project planning, four conceptual course layout and eight entrance alternatives were identified, characterized and evaluated. The course layouts alternatives were considered in order to identify a preferred course design and minimize environmental impacts. The alternatives also include alternate maintenance building locations. The preferred alternative (Alternative E) has the least amount of wetland impacts of the twelve alternatives, minimizes impacts as much as practicable, and completely avoids impacts to recreational areas of the park and burial sites.

Eight entrance routes were investigated to identify a preferred route for guest and operational traffic. All entrance route options are constructible and viable, however the presence of environmental encumbrances and current use result in certain routes being more desirable than others.

Eight maintenance building locations were considered in co-locations with the entrance routes.

Alternative drawings with course layout, entrance routes, and maintenance building locations are provided in Figures 9A-E. The following provides a summary of the consequences and impacts for each alternative design considered for this Project:

Consequences of Alternative A:

The Alternative A proposes a course layout design that contains a footprint within the existing Kohler Property and additional expansion on the State Park property to the south. Alternative A impacts approximately 14 total acres of wetlands including portions of the Black River floodplain and one stream crossing of the Black River. This alternative would require an easement from the State of Wisconsin for the entrance route within the west portion of the State Park and use of State Park property to the south.

The Alternative A course layout design and proposed location of the irrigation pond expands to the northwest within close proximity to the burial mounds and within the Black River floodplain. Hole design near the west extent of the Kohler Property are located within or close proximity to the Black River floodplain. Hole design to the south expands onto State Park property.

The entrance route originates on South 12th Street, and traverses the southern part of the west State Park property. The entrance route crosses several wetland communities before bridging across the Black River onto Kohler Property. The entrance route continues east crossing forested dune before turning northeast and ending at the proposed parking area.

The maintenance building is located in the west central portion of the Kohler Property within a [REDACTED] and northern dry forest (pine plantation). The proposed maintenance building would result in no wetland impacts.

Based on the footprints of the entrance route, course design, maintenance facility and irrigation pond, Alternative A impacts approximately 14 acres of wetland including portions of the Black

River floodplain. The types of wetland that may potentially be impacted include; [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative A is less desirable due to the amounts of wetland impacts and the amount of State Park property needed for the design.

Consequences of Alternative B-1:

The Alternative B-1 proposes a course layout design that contains the largest proposed footprint within the existing Kohler Property impacting the greatest amount of wetlands (approximately 25 total acres), including portions of the Black River floodplain and one stream crossing of the Black River. This alternative would require an easement from the State of Wisconsin for the entrance route within the west portion of the State Park property.

Alternative B-1 course layout design and proposed location of the irrigation pond expands to the northwest within close proximity to the burial mounds and within the Black River floodplain. Holes near the west extent of the Kohler Property are located within and close proximity to the Black River floodplain.

The entrance route originates on South 12th Street, and traverses the central part of the west State Park property. The entrance route crosses old field and several wetland communities before bridging across the Black River. The entrance route continues east onto Kohler Property, crosses the ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located within a degraded [REDACTED] and degraded hardwood swamp.

Based on the footprints of the entrance route, course design, maintenance facility and irrigation pond, Alternative B-1 impacts the largest amount of wetlands (approximately 26 acres), including portions of the Black River floodplain. The types of wetland that may potentially be impacted include; [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative B-1 is less desirable due to the amount of wetland impacts and because it would bisect the State Park property and impact the existing recreational trails, creating road/trail crossings.

Consequences of Alternative B-2:

The Alternative B-2 proposes the same course layout design and entrance route as Alternative B-1. The only alterations to Alternative B-2 are the removal of the mound system surrounding the maintenance facility and relocating the turf nursery onto Kohler Property. Alternative B-2 slightly reduces wetland impacts to approximately 24 total acres, including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route within the west portion of the State Park property.

Alternative B-2 course layout design and proposed location of the irrigation pond expands to the northwest within close proximity to the burial mounds and within the Black River floodplain. Hole design near the west extent of the Kohler Property are located within and close proximity to the Black River floodplain.

The entrance route originates on South 12th Street, and traverses the central part of the State Park property. The entrance route crosses old field and several wetland communities, as well as recreational trails, before bridging across the Black River. The entrance route continues east onto Kohler Property, crosses ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located in the west central portion of the State Park property located within a degraded [REDACTED] and degraded hardwood swamp.

Based on the footprints of the entrance route, course design, maintenance facility and irrigation pond, Alternative B-2 impacts approximately 24 total acres of wetlands (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative B-2 is less desirable due to the amount of wetland impacts and because it would bisect the State Park property and impact the existing recreational trails, creating road/trail crossings.

Consequences of Alternative C:

The Alternative C proposes a course layout design that reduces the footprint within the existing Kohler Property, minimizing wetland impacts. Alternative C impacts approximately 16 total acres of wetlands, including portions of the Black River floodplain, and one stream crossing of the Black River. This alternative would require an easement from the State of Wisconsin for the entrance route within the State Park property.

The Alternative C course layout design relocates the hole located in the northwest corner of the Kohler Property and repositions it further south away from the burial mounds. Holes located within the beach adjacent to Lake Michigan are moved further to the west, [REDACTED]. Holes located to the west adjacent to the Black River floodplain are moved further east, minimizing impacts within the Black River floodplain. Holes designed within the forested dune are relocated, minimizing impacts to sensitive habitats.

This alternative places the entrance route in the same location as Alternatives B-1 and B-2. The entrance route originates on South 12th Street, and traverses the central part of the west State Park property. The entrance route crosses old field and several wetland communities as well as recreational trails before bridging across the Black River. The entrance route continues east onto Kohler Property, crosses ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located in the west central portion of the State Park property located within a degraded [REDACTED] and degraded hardwood swamp. The location of the maintenance building is the same as Alternative B-2.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative C minimizes wetland impacts, totaling approximately 16 acres (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED] hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED].

[REDACTED] Alternative C is less desirable due to the amount of wetland impacts and because it would bisect the State Park property and impact the existing recreational trails, creating road/trail crossings.

Consequences of Alternative D-1:

The Alternative D-1 proposes a course layout with wetland impacts totaling approximately 18 acres, including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route within the west portion of the State Park property.

The entrance route remains on South 12th Street, and traverses the southern part of the west State Park property. The entrance route crosses uplands and several wetland communities as well as recreational trails before bridging across the Black River. The entrance route continues east onto Kohler Property, crosses ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located in the southwestern portion of the State Park property south of the entrance route. The proposed maintenance building is located within an [REDACTED] wet meadow, degraded wet meadow, hardwood swamp and degraded hardwood swamp.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative D-1 contains wetland impacts totaling approximately 18 acres (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED], wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]

[REDACTED] Alternative D-1 is less desirable due to the amount of wetland impacts.

Consequences of Alternative D-2:

The Alternative D-2 proposes a course layout design with wetland impacts totaling approximately 14 acres including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route within the State Park property.

The entrance route begins on South 12th Street on the north end of the State Park property, traverses through uplands, recreational trails and several wetland communities, and bridges the Black River near the north-south midline of the Kohler Property. The entrance route continues east onto Kohler Property, crosses wetlands before ending at the parking area.

The proposed maintenance building is located in the northwestern portion of the State Park property south of the entrance route. The proposed maintenance building is located within an old field with the entrance road crossing a degraded wet meadow.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative D-2 contains impacts totaling approximately 14 acres (including portions of the Black River floodplain). The types of wetlands that may potentially be impacted include; [REDACTED] degraded [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]

[REDACTED] Alternative D-2 is less desirable due to the impacts to the recreational trails on State Park property and the discovery of pre-historic and historic artifacts along the route.

Consequences of Alternative D-3:

The Alternative D-3 proposes a course layout design with wetland impacts totaling approximately 15 acres including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route within the State Park property.

The entrance route begins at the intersection of Stahl Road and South 12th Street, in a Kohler owned residential development immediately north of the State Park property; continues straight east crossing the Black River, and then runs south adjacent the Burial mounds to the approximate midline of the Kohler Property. This entrance route traverses uplands and several

wetland communities, continues east onto Kohler Property, and crosses ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located in the north portion of the State Park property south of the entrance route within a pine plantation. The proposed maintenance building would result in no wetland impacts.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative D-3 contains wetland impacts totaling approximately 15 acres (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED], degraded [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative D-3 is less desirable due to the route's proximity to burial mounds. The upland area adjacent to the burial mounds is also considered to be an area of archaeological significance.

Consequences of Alternative D-4:

The Alternative D-4 proposes a course layout design with wetland impacts totaling approximately 14 acres including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route and a maintenance facility within the State Park property.

The Alternative D-4 entrance route begins at the intersection of Stahl Road and South 12th Street, in a Kohler owned residential development immediately north of the State Park property. Alternative D-4 entrance route diverges from Alternative D-3, and runs southeast across the State Park property, avoiding the Burial mounds, and then crossing the Black River. This entrance route traverses uplands and several wetland communities, continues east onto Kohler Property, and crosses ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located in the north portion of the State Park property north of the entrance route (same location as Alternative D-3) within a pine plantation. The proposed maintenance building would result in no wetland impacts.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative D-4 contains wetland impacts totaling approximately 14 acres (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED] degraded [REDACTED] wet meadow, degraded wet meadow, hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative D-4 is a viable option, as it originates at an existing intersection, minimizes impacts to recreational trails, and minimizes environmental impacts. However, Alternative D-4 was not selected as the preferred option, as Alternative D-4 does would impact recreational areas on the State Park property.

Consequences of Alternative D-5:

The Alternative D-5 proposes a course layout design with approximately 14 acres including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route and maintenance facility within the State Park property.

The Alternative D-5 entrance route begins on South 12th Street, traverses the State Park property through uplands, recreational trails and wetlands, and bridges the Black River near the north-south midline of the Kohler Property. This entrance route traverses old field, degraded [REDACTED] and degraded hardwood swamp, which are dominated by non-native and/or

invasive species. The road crosses hardwood swamp, [REDACTED] and the Black River. The entrance route continues east onto Kohler Property, crossing hardwood swamp/forested seep and ridge and swale wetland before ending at the parking area.

The proposed maintenance building is located in the central portion of the State Park property north of the entrance route. The proposed maintenance building is located on old field and [REDACTED]. The proposed maintenance building would result in no wetland impacts.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative D-5 contains wetland impacts, totaling approximately 14 acres (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED] hardwood swamp, degraded hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative D-5 is less desirable as it would bisect the State Park property and impact the existing Black River recreational trails, creating three separate road/trail crossings.

Consequences of Alternative D-6:

The Alternative D-6 proposes a course layout design with wetland impacts totaling approximately 15 acres including portions of the Black River floodplain. This alternative would require an easement from the State of Wisconsin for the entrance route and maintenance facility within the State Park property.

Alternative D-6 begins on Beach Park Lane at the existing State Park entrance, and travels north adjacent and within portions of the east side of the Black River floodplain to the midline of the Kohler Property traversing [REDACTED] hardwood swamp/forested seep, and hardwood swamp. The entrance route turns east crossing a ridge and swale wetland before ending at the parking area.

The maintenance facility is located east of the entrance route on portions of the State Park property not typically utilized by the general public and contains [REDACTED].

[REDACTED] State Park recreational trails/areas are not impacted as the entrance road and the maintenance facility location would be located in an area not typically utilized by the public. Additional benefits to the State Park would be to make utilities not currently available, accessible to the existing State park maintenance facility along with providing a more suitable access road for park maintenance operations.

Based on the footprints of the entrance route, course design, and maintenance facility Alternative D-6 contains wetland impacts, totaling approximately 15 acres (including portions of the Black River floodplain). The types of wetland that may potentially be impacted include; [REDACTED] hardwood swamp, hardwood swamp/forested seep, ridge and swale wetland and [REDACTED]. Alternative D-6 is less desirable due to the size of the wetland impact on Kohler Property associated with this entrance route.

Consequences of Alternative D-7:

The Alternative D-7 proposes a course layout design with wetland impacts totaling approximately 14 acres including portions of the Black River floodplain. This alternative solely utilizes Kohler Property and requires no easement for the use of State of Wisconsin property.

Alternative D-7 begins at Timberlake Road located north of the existing Kohler Property. The road travels south within the Black River floodplain, while crossing [REDACTED] hardwood swamp/forested seep, hardwood swamp, wet meadow and [REDACTED].

4.2.4 Fauna

Kohler's investigation of fauna is described in Section 3.2.4 above. Many wildlife species will naturally disperse during site construction activities to adjacent habitats. Some species will return to utilize available habitat following construction. Certain wildlife species may be directly impacted during and after construction because of habitat loss and their inability to disperse to replacement habitat. Impact to these species is not expected to create a significant effect on regional populations.

Project activities will focus on minimizing impacts to wildlife and improving the unaffected forest habitat. The Project will avoid impacts to [REDACTED]. At least 50 percent of the forest habitat will be retained, and invasive species management, as well as restoration of native trees and shrubs in invasive removal areas, will improve the retained forest habitat.

4.2.5 Threatened and Endangered Species

Significant effort was made during the development of Project alternatives to avoid direct impacts to regulated species as noted in Section 3.2.5 above [REDACTED]. [REDACTED] will be avoided and protected by the Project. [REDACTED] are adjacent to Project features and may experience some minor impacts. Kohler will [REDACTED] and will avoid and minimize impacts to [REDACTED] to the extent practical.

Impacts to State listed plant species, which are not protected on private property, will be minimized to the extent practicable. Kohler will work with WDNR to develop mitigation measures for impacted State listed plant species, such as transplanting individuals to suitable habitat (if tolerated by the species), or establishing new populations in suitable areas. Additionally, Kohler will install educational and "Do Not Disturb" signs in rare species areas, and provide other wayfinding cues to direct traffic away from high quality plant communities. Rare species protection protocols will also be included in staff training for course operators.

4.2.6 Invasive Species

Invasive species exist on the Kohler Property and State Park property (See Section 3.2.6). Although there may be opportunities for invasive species to spread from site disturbance, habitat fragmentation, and soil importation, invasive species control efforts will be employed as part of the Project.

Table 4-4 provides recommendations for the invasive species mapped on the Kohler Property. Management of Japanese barberry is the priority due to its current density, while the other species are a secondary priority, being scattered across the Property. Herbicides will be applied by licensed professional pesticide applicators and in accordance with product labels. Kohler will complete invasive species management and replant native trees, shrubs and groundcover in areas beneficial to the habitat.

The management of invasive species will have a significant, long term positive benefit to the property and biological community. Invasive species removal allows native plant communities to repopulate, significantly enhancing the habitat and promoting increases in native biological and wildlife diversity.

Table 4-4. Invasive Species Management Recommendations

| Species | Plant Community | Recommended Treatment Method(s) and Herbicide (Common Product Name Example) | Timing |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Japanese barberry (<i>Berberis thunbergii</i>) | Northern Dry Forest – Pine Plantation Northern Dry-Mesic Forest Dune and Forested Dune Hardwood Swamp/Forested Seep | Foliar application (Triclopyr) with backpack sprayer or boom sprayer (for dense populations in the Pine Plantation) | When plant is actively growing and fully leafed out |
| | | Forestry mow and conduct foliar application (Triclopyr) with backpack sprayers to resprouts (for dense populations in the Pine Plantation); less potential damage to non-target species and reduces amount of herbicide applied compared to option a. | Mow during the dormant season (fall, winter). Apply herbicide to resprouts when plant is actively growing and fully leafed out the following growing season. |
| | | Cut-stump and treatment (Glyphosate) (feasible for scattered populations) | Conduct any time of year |
| Reed canary grass (<i>Phalaris arundinacea</i>) | Swale Wetland Complex Alder Thicket Wet Meadow – degraded Northern Dry-Mesic Forest | Foliar application (Glyphosate) via backpack sprayer in areas with scattered populations. Control in areas with dense populations is likely not feasible without intensive efforts, reintroduction of native species, and continued management. | Spring (prior to seed production) or fall (may mow first and allow for appropriate regrowth prior to treating) |
| Honeysuckle species (<i>Lonicera</i> spp.) | Interdunal Wetland | Foliar application (Glyphosate) | When plant is actively growing and fully leafed out |
| | | Cut-stump and treatment (Glyphosate) (recommended for medium to large shrubs to reduce overspray) | Conduct any time of year |
| Garlic mustard (<i>Alliaria petiolata</i>) | Northern Dry-Mesic Forest | Foliar application (Glyphosate) via backpack sprayer | Treat rosettes in spring or fall or treat flowering plants |
| Dame's rocket (<i>Hesperis matronalis</i>) | Northern Dry-Mesic Forest Hardwood Swamp/Forested Seep | Foliar application (Glyphosate) via backpack sprayer | Treat rosettes in spring or fall or treat flowering plants |
| Canada thistle (<i>Cirsium arvense</i>) | Northern Dry-Mesic Forest Swale Wetland Complex | Foliar application (Glyphosate) via backpack sprayer | Apply during flower bud to early flowering stage or to rosettes in fall if leaves are green |
| Spotted knapweed (<i>Centaurea stoebe</i>) | Dune | Foliar application (Aminopyralid) via backpack sprayer | Apply to rosettes in the spring or fall, or to plants in the bolting stage |

| Species | Plant Community | Recommended Treatment Method(s) and Herbicide (Common Product Name Example) | Timing |
|----------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Black locust (<i>Robinia pseudoacacia</i>) | Forested Dune | Cut-stump, basal bark, or girdling (Aminopyralid) | Apply any time of year |
| Cypress spurge (<i>Euphorbia cyparissias</i>) | Dune Northern Dry-Mesic Forest | Foliar application (Glyphosate) via backpack sprayer | Apply twice per year, first to plants when seeds are forming and again in fall before a killing frost |

4.2.7 Other

The Kohler Property is dominated by sandy soils with high permeability. This combined with a shallow depth to the surficial groundwater aquifer increases the potential for pesticides and fertilizer to leach into the shallow aquifer. Leaching of pesticides and fertilizers to the aquifer will be minimized through careful implementation of contemporary IPM and irrigation BMPs. See Section 2.3.6 and 2.3.7.

Kohler will operate this golf course in accordance with the latest IPM plan and as recommend by manufacturer's specifications. New IPM practices are being tested and developed on an ongoing basis, and contemporary water and pest management practices reduce environmental impacts significantly compared to twenty years ago (Rossi and Grant, 2009). Precision irrigation management can minimize leaching by scheduling irrigation so that water does not move beyond the active rooting zone. Additionally, careful application of fertilizers at rates that match plant requirements also decreases nitrogen leaching from established turfgrass (Barton and Colmer 2006). Using new pesticide products with lower active ingredient concentrations and lower leaching capabilities reduces the risk of leaching into the groundwater (Kovach et al., 1992).

4.3 CULTURAL

4.3.1 Land Use

The proposed golf course would allow public access to the 247 acre property which is privately owned and currently unavailable to the public. Rezoning of the property is not required as a golf course is allowable within the current zoning of P-1 Parks and Recreation as a conditional use.

In connection with developing the golf course, Kohler would grant a lake access easement for lot owners in the Timberlake Subdivision. This easement will be located in the northeast portion of the Kohler Property and will provide subdivision lot owners direct access to Lake Michigan, which currently does not exist.

4.3.2 Traffic

A study was completed to determine the traffic impacts of the proposed golf course (Excel, 2014b). The State of Wisconsin rates the functionality of intersection movements based upon their Level of Service (LOS). The LOS for an intersection or traffic movement is calculated in a range from A to F. The minimum acceptable value is LOS D.

The traffic study concludes that all proposed traffic movements at the intersection of CTH V and Beach Park Road will operate at a LOS B or better. The study also shows that all movements at the proposed golf course entrance location to Beach Park Road will operate at LOS A. In both cases, the LOS significantly exceeds the minimum acceptable value. The Level of Service calculations were based upon the existing road intersection configuration. Therefore, no additional improvements were recommended as a result of the proposed golf course traffic.

To improve circulation, Kohler is proposing to modify the State Park entrance area by adding a roundabout, east of the existing bridge spanning the Black River. Two lanes would be dedicated for entering State Park visitors while golf course traffic and exiting State Park visitors would utilize the roundabout. Kohler would fund the entire cost of the enhancements.

4.3.3 Socio-economic

Recreation and Tourism

The proposed golf course presents an opportunity to generate significant economic impact and help elevate the State of Wisconsin and Sheboygan County's reputation as the premier golf destination in the United States. The project is expected to create a premier new recreation facility in the Town of Wilson and Sheboygan County.

Sheboygan County is recognized as a premier golf destination to tourists from within the county as well as travelers from out of state. An approximate 23,000 additional rounds of golf are anticipated to be played at the new course, representing an increase of almost 25 percent compared to the existing environment. This positive increase will result in additional tourists that come into the Town of Wilson and Sheboygan County, which will in turn increase the number of users of the recreational amenities offered in the area. An increase in visitors will in turn also generate expenditures from guests and hospitality in Sheboygan County (SB Friedman, 2015).

The Project site is privately owned and currently not available to the public. Upon completion of the Project, the Kohler owned property would be available for recreational use creating a positive public benefit. The Project will also create increased use of the State Park and opportunities for park-users to utilize the golf course and restaurant.

Employment, Labor Force, and Income

SB Friedman Development Advisors (SB Friedman) was retained by Kohler to estimate the economic impact of the Project on three geographies including: the Town of Wilson; Sheboygan County; and an 11-county region consisting of Brown, Calumet, Fond du Lac, Manitowoc, Milwaukee, Outagamie, Ozaukee, Sheboygan, Washington, Waukesha and Winnebago counties.

In their study SB Friedman (2015) measures the total economic impact of the Project on the three geographies mentioned above. The results of the SB Friedman economic study are summarized throughout this section. In order to quantify the impacts, specific data was analyzed using an economic assessment tool.

Sources of direct economic impacts include temporary construction impacts over a three year period, expanding golf as an ongoing economic engine and creating significant public sector tax revenue benefits. When fully operational, the proposed golf course is projected to create 227 full-time equivalent permanent jobs and generate nearly \$21 million in annual economic activity for Sheboygan County households and businesses. Quantitative impacts are given in 2014 dollars.

Temporary Construction Impacts

Total development costs of the Project are estimated at \$25 million including hard and soft costs. Construction is expected to provide an immediate economic benefit for the three geographic regions analyzed as shown in Table 4-5 below. During the 3-year design and construction period, construction spending is expected to create an average of 67 direct full-time equivalent (FTE) jobs in the Town of Wilson. This equates to an annual increase of \$3.9 million in salaries and benefits, and an overall impact of \$9 million using economic multipliers.

In Sheboygan County, direct FTE positions are estimated at 95 FTE jobs. And the total labor income is estimated at \$5.3 million, with an overall impact of approximately \$12.5 million based on economic multipliers. Considering the 11-county region total FTE jobs are estimated at 102, labor income at \$5.8 million, and total impact of \$13.6 million based on economic multipliers.

Table 4-5. Total Estimated Annual Economic Impact for Construction

| | JOBS (FTE) | SALARIES AND BENEFITS | IMPACT |
|------------------|------------|-----------------------|---------|
| Town of Wilson | 67 | \$3.9M | \$9.0M |
| Sheboygan County | 95 | \$5.3M | \$12.5M |
| 11-County Region | 102 | \$5.8M | \$13.6M |

An Economic Growth Engine for Sheboygan County

Between April and October the proposed course is expected to add 23,000 rounds of golf to the region, increasing the level of economic impact in Sheboygan County (SB Friedman, 2015). When fully operational, Kohler anticipates employing 168 people in full and part-time jobs with approximately \$3.6 Million in annual associated salaries and benefits. 88 percent of the positions are expected to be filled by residents of Sheboygan County. Expenditures from guests and hospitality are also expected to increase due to the proposed course, generating an additional \$6.5M in lodging and purchases of food, beverage, and retail goods.

Increased Tax Revenue

Using existing data from the Wisconsin Department of Revenue (WDR) and data from Kohler on comparable golf course in the country, SB Friedman evaluated the impact of the Project on tax revenue. Including property, sales, income, motor vehicle fuel, and hotel room taxes it is anticipated that the new golf course will generate \$1,116,000 in tax revenue (based on 2013 tax rates).

4.3.4 Historical and Archaeological

The Project was designed to avoid the known burial mounds in the northwest corner of the Kohler Property. No additional human remains or burial mounds were discovered during the 2014 survey. Additional studies are scheduled to resume in spring of 2015, weather permitting. Upon completion, the results of these studies will be sent to the SHPO for evaluation. In accordance with State and Federal statutes, potential impacts to National Register eligible archaeological resources will be avoided, minimized, and/or mitigated.

4.3.5 Visual and Aesthetics

The lakeshore and associated dune habitats are essential to the natural and minimalistic golf course design and will not be modified. The Project will create gaps in the forest canopy and increase sight distances throughout the Property. Greater variations in the landscape (open areas contrasted with forested areas) will add scenic interest to the current forested landscape. The distinctive undulating dune topography will be retained. The Project will introduce several sustainable and aesthetically appealing structures to the Property and increase access to and on the Property via roads and cart paths.

By removing invasive species and actively preserving the natural, native flora, the aesthetic quality of the parcel will be improved. Some trees bordering the beach will be removed, allowing longer sight lines between the Project and Lake Michigan. The majority of the dunes and beach system will remain natural, allowing it to retain its distinctive scenic attractiveness and high scenic integrity. The aesthetics associated with the existing forested landscape will be modified, but enhanced by picturesque golf views.

The viewshed associated with adjacent lands will remain largely unchanged, since the Project will be screened on three sides by woody vegetation, either original to the site or planted. The enhanced views of the property would be visible from Lake Michigan.

The Project will place high value on the landscape integrity and aesthetics: landscape variation and interspersion of native vegetation, long views within the Property and to the lakeshore vista, and natural-appearing topography. Incorporating these landscape features will enhance visual and aesthetic features of the Kohler Property.

4.4 OTHER SPECIAL RESOURCES

Stopover habitat for migratory birds is an important component along the Lake Michigan shoreline. Songbirds utilize the forested habitat along the shoreline during spring and fall migration. The WDNR recognizes a 10-mile zone landward of the shoreline as potential stopover habitat.

Migratory birds that utilize Lake Michigan waters and the beach area along the Kohler Property will not be impacted by the Project, since these areas will remain undisturbed.

The Project design intends to keep 50 percent of the forested habitat on the Kohler Property intact ensuring availability during songbird migration. Following construction of the golf course, forest cover within the Kohler Property will likely provide similar stopover habitat to the adjacent residential areas and the State Park. Analysis of land cover data indicates approximately 54 percent of the State Park property consists of forested or shrub cover. The introduction of an approximately 5 acre irrigation pond will also create a valuable and beneficial stopover habitat for water birds that does not currently exist on the property.

4.5 ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Modifications to the course layout and entrance road location have avoided and minimized impacts to the extent practicable. Impacts that cannot be avoided have been minimized with mitigation measures described in Section 4.6. The following summarizes unavoidable impacts from the Project:

- Impacting of approximately 4 acres of State Park property (primarily utilized for maintenance) with an easement from Beach Park Road, east of the Black River. The

preferred alternative avoids construction of a new Black River crossing and minimizes wetland, stream, and floodplain impacts.

- Conversion of less than 5 acres of wetland habitat. The preferred alternative minimizes wetland impacts from more than 25 acres to less than 5 acres.
- Conversion of the existing forested cover may affect stopover habitat for migratory birds. The preferred alternative minimizes site disturbance ensuring that approximately 50 percent of the forested habitat remains available for migratory stopover habitat.
- Archaeological surveys will resume in 2015, weather permitting. The preferred alternative will be modified in consultation with the SHPO to avoid potential sensitive areas.

4.6 MITIGATIVE MEASURES

Use of State Park LAWCON land to allow Project access will require compensation in accordance with the WDNR and NPS as determined acceptable by such authorities.

Impacts to wetlands from the Project will require wetland mitigation in accordance with the USACE and WDNR requirements. The preferred option for wetland mitigation required by the WDNR and USACE are wetland banking and the Wisconsin Wetland Conservation Trust, also referred to as the In-Lieu Fee (ILF) program. The Project is located in the Northwestern Lake Michigan Bank Service Area (BSA). The preferred option would be to purchase credits from a bank site in the same BSA such as Sheboygan County's proposed Amsterdam Dunes wetland mitigation bank, if available.

Kohler's second option is to purchase mitigation credits from the WDNR's ILF program to mitigate wetland impacts resulting from the Project (at a ratio of 1.45 acres of new wetlands for every 1 acre impacted). The ILF program works similarly to purchasing credits from a bank site; however, the purchase is made through the WDNR which is then responsible for the restoration, establishment, enhancement and/or preservation of aquatic resources.

To avoid and minimize impacts to [REDACTED] and breeding migratory bird species protected under the federal MBTA, vegetation and tree clearing will be minimized during the peak nesting season which occurs between March and October. Tree clearing activities will be scheduled, to the extent practicable, outside of this time period to minimize disturbance to active nests and avoid the direct take of [REDACTED] eggs and/or nestlings.

Dust generated during construction will be minimized by applying water to haul roads and high traffic areas.

Kohler will undertake forest management activities to minimize the impact of the Project on the ecosystem. At least 50 percent of the forest habitat will be retained, providing wildlife habitat. Kohler will manage invasive species within the forest habitat with the goal of eradication, and will restore native forest vegetation where appropriate. Kohler will integrate rare species protection into the Project, including avoiding impacts to [REDACTED], relocating or re-establishing populations of State listed plants, and protecting high quality habitats with educational and "Do Not Disturb" signs and markers.

Kohler will implement storm water BMPs during construction and operation of the Project. Runoff will be treated and allowed to infiltrate into the groundwater.

As part of the Project, Kohler will provide an access easement to the lakeshore for homeowners in the Timberlake Subdivision.

Kohler will develop a program with the Town of Wilson to mitigate potential impacts to adjacent private water supply wells. This program has been successfully implemented at Whistling Straits.

5.0 EVALUATION OF PROJECT SIGNIFICANCE

5.1 ENVIRONMENTAL EFFECTS AND THEIR SIGNIFICANCE

5.1.1 Long- and Short-Term Primary and Secondary Effects

Long Term Primary

Positive Effect

- Increased economic activity for the Town of Wilson, City of Sheboygan, Sheboygan County and the State of Wisconsin
- Preserved distinctive scenic quality
- Invasive species management on Kohler Property
- Preservation of the beach and water for migrating aquatic/shore birds
- Enhancement of area property values
- Increased tax revenue
- Increased employment
- Wildlife habitat creation (irrigation pond)
- Protection of rare species [REDACTED]
- Opening private property to general public
- Timberlake Subdivision lake access
- Increased scenic interest and views
- Increased exposure to State Park
- Enhancements to the existing State Park entrance
- Wetland habitat replaced in watershed

Negative Effect

- Decreased wooded habitat
- Decreased wetland function (wildlife habitat, floristic integrity, and groundwater)
- Slight traffic increase

Short term Primary

Positive Effect

- Economic benefits from construction employment
- Economic benefits from local business purchases

Negative Effect

- Construction traffic
- Air emissions during construction
- Temporary wildlife displacement

Long and Short Term Secondary

Positive Effect

- Significant employment
- Employee retention in the community

Negative Effect

- Decreased floral diversity
- Wetland type conversion (woody to herbaceous)
- Fragmentation of wildlife movement corridor and modified migratory stopover habitat

5.1.2 Environmental Effects on Geographically Scarce Resources

Geographically scarce resources associated with the Project include the lakeshore and beach habitat located on the east portion of the Kohler Property. Impacts to these habitats will be avoided and minimized. Similar habitats also exist south of the Project on State Park property.

Additional geographically scarce resources on the Property include the Wisconsin NHI communities including [REDACTED]. These habitats also exist south of the Project on State Park property. Although impacts are small, the Project may impact these [REDACTED]. The acreage of wetland impacts will be estimated during the golf course design and permitting phase. The wetland impacts have been reduced significantly to less than 5 acres and will be mitigated through programs administered by WDNR and USACE. Opportunities to further minimize wetland impacts will continue to be evaluated.

The Project is designed to protect regulated rare plant [REDACTED] present along the lakeshore. These habitats also exist south of the Project on State Park property.

The Project schedule will be implemented to minimize impacts to breeding bird and migratory stopover habitat. Tree clearing will be minimized during the peak migratory and nesting seasons.

5.1.3 Irreversible Impacts

Irreversible impacts include Project effects that would take a long period (over 50 years) to replace or result in removal of a feature known only to exist on the Kohler Property. Field studies do not indicate any natural or cultural resources unique to the Kohler Property.

Removal of 50 percent of the existing wooded habitat is considered irreversible. Construction of the irrigation pond is also considered irreversible, however, this pond will provide a large inland open water habitat currently lacking in the local area.

5.2 SIGNIFICANCE OF CUMULATIVE EFFECTS

Cumulative impacts are those that result when the effects of an action are added to or interact with other effects in a particular place and within a particular time. The creation of a world-class golf course will add to the existing golf course in Sheboygan County and reinforce the area as a golf destination, resulting in further development of golf-related services. This will have significant economic benefits for the area. Development pressure within the immediate vicinity of the Property will be low, given that the surrounding State Park is protected land. This will allow for continued protection of habitat and endangered resources in the area, reducing the cumulative effects to regional populations of flora and fauna.

Opening the Property for public recreation and Timberlake residents' lake access will increase the recreational use value of the area, building on the popularity of the adjacent State Park.

There is not expected to be any cumulative impacts from irrigation to the water supply or water quality.

Development of the high-visibility, environmentally sensitive, world-class golf course may result in the Project serving as a model for future golf courses.

Ecological cumulative effects from this Project include partial conversion of undisturbed habitat. Kohler intends to continue to work cooperatively with Federal and State agencies to reduce the cumulative effects of the Project.

5.3 SIGNIFICANCE OF RISK

The Project is located along the Lake Michigan shoreline and adjacent to the State Park property. Avoidance and minimization measures have been considered to minimize impacts. Implementation of mitigative measures will minimize the risk associated with this Project. Adjoining lands provide similar habitats to those found on the Kohler Property therefore the risk to the local ecosystem is minimized.

5.4 SIGNIFICANCE OF CONTROVERSY OVER ENVIRONMENTAL EFFECTS

The public has been informed of the Project since its introduction on April 7, 2014 at the Town of Wilson Board meeting, and the Project has been discussed in local newspapers and other local forums since then. Table 5-1 contains information on public involvement for the Project. At the conclusion of the July 16, 2014 plan commission meeting, the Town of Wilson Plan Commission requested that State and Federal permits for the Project be pursued before consideration of the conditional use permit application resumes. Additional public meetings with the Town of Wilson will occur after Federal and State permitting has progressed.

Table 5-1. Public Meetings for the Project

| DATE | AGENCY | TOPIC | COMMENTS |
|---------------|-----------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 7, 2014 | Town of Wilson Town Board | Project Introduction | Initial presentation during a public meeting to the Town of Wilson Town Board |
| May 12, 2014 | Town of Wilson Plan Commission | Conditional use permit public hearing | Presentation to the Town of Wilson Plan Commission as part of the conditional use permit application process |
| July 1, 2014 | Black River First Responders, Black River Fire Department | Emergency services | Meeting to review project and develop recommendations to improve emergency response |
| July 16, 2014 | Town of Wilson Plan Commission | Public Input on project on conditional use permit application | Meeting to gather public input on project. Plan Commission requested Kohler to obtain Federal and State permits before continuing Plan Commission process |

5.5 AGENCY CONSULTATION

Table 5-2 contains information on consultations conducted with State and Federal agencies regarding various topics on the permitting process and requirements. Consultations will continue as needed to complete the permitting process.

Table 5-2. Agency Consultation for the Project

| DATE | AGENCY | TOPIC | COMMENTS |
|--------------------|------------|----------------------|---------------------------------------------------------------------------------|
| July 31, 2014 | WDNR | Site Visit | Site visit with WDNR officials to view property |
| August 6, 2014 | WDNR | Permitting process | Meeting with WDNR to discuss required permits and timelines |
| August 26, 2014 | WDNR | † Resources | Request submitted for review of endangered resources |
| September 18, 2014 | USACE | Permitting process | Meeting with USACE to discuss required permits and timelines |
| September 29, 2014 | WDNR/USACE | Entrance options | Meeting with WDNR & USACE to review and discuss entrance options |
| October 1, 2014 | WDNR | Monitoring wells | Onsite visit by WDNR to view installation of monitoring wells. |
| October 3, 2014 | USFWS | Endangered Resources | Request submitted for review of endangered resources |
| October 8, 2014 | WDNR | Wetland Concurrence | Onsite meeting with WDNR to obtain concurrence on wetland delineation |
| October 17, 2014 | WDNR/USACE | Wetland Concurrence | Onsite meeting with WDNR and USACE to obtain concurrence on wetland delineation |

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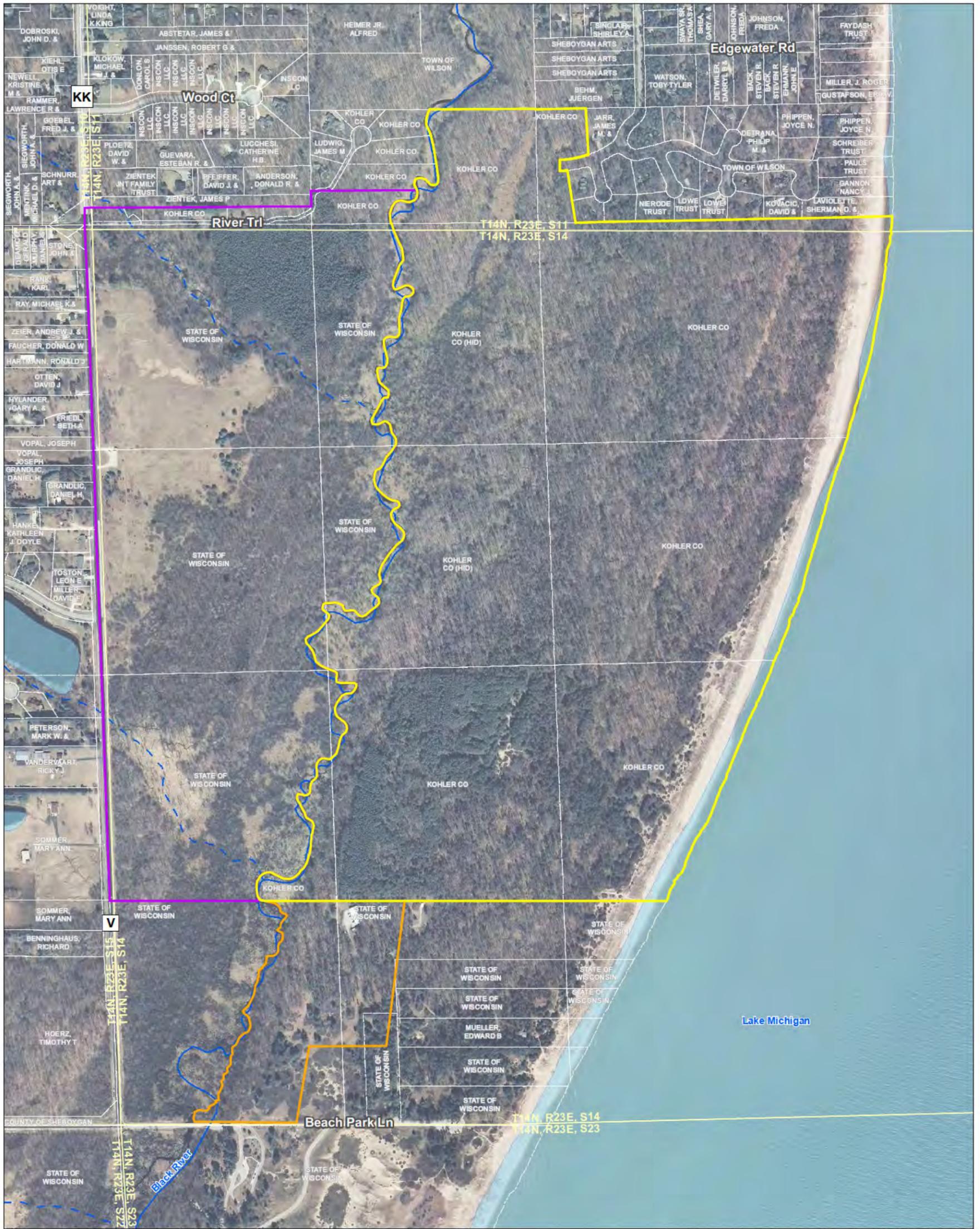
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FIGURES

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| Figure 3 | Plat Map |
| Figure 4 | Zoning Map |
| Figure 5 | Wisconsin Wetland Inventory and NRCS Soil Survey Data |
| Figure 6 | Wetland Delineation and Floodplain Map |
| Figure 7 | Plant Communities Map |
| Figure 8 | Invasive Plant Species Map |
| Figure 9A | Project Alternative A |
| Figure 9B-1 | Project Alternative B-1 |
| Figure 9B-2 | Project Alternative B-2 |
| Figure 9C | Project Alternative C |
| Figure 9D | Project Alternatives D1-D7 |
| Figure 9E | Project Alternative E (Preferred) |

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- Legend**
- Approximate Project Boundary Kohler Co. Property
 - Approximate Project Boundary State Park Property
 - Additional Study Area
 - ~ DNR 24k Hydrography
 - ~ Perennial Stream
 - ~ Intermittent Stream
 - ~ Waterbody

Notes

- Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
- Data Sources Include: Stantec Kohler WDNR WDOT Sheboygan County
- Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

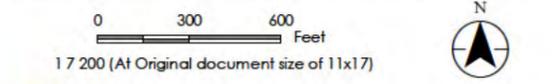
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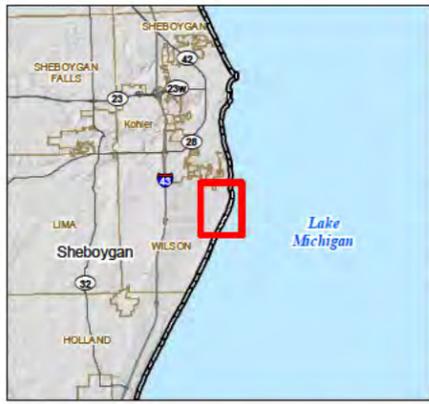
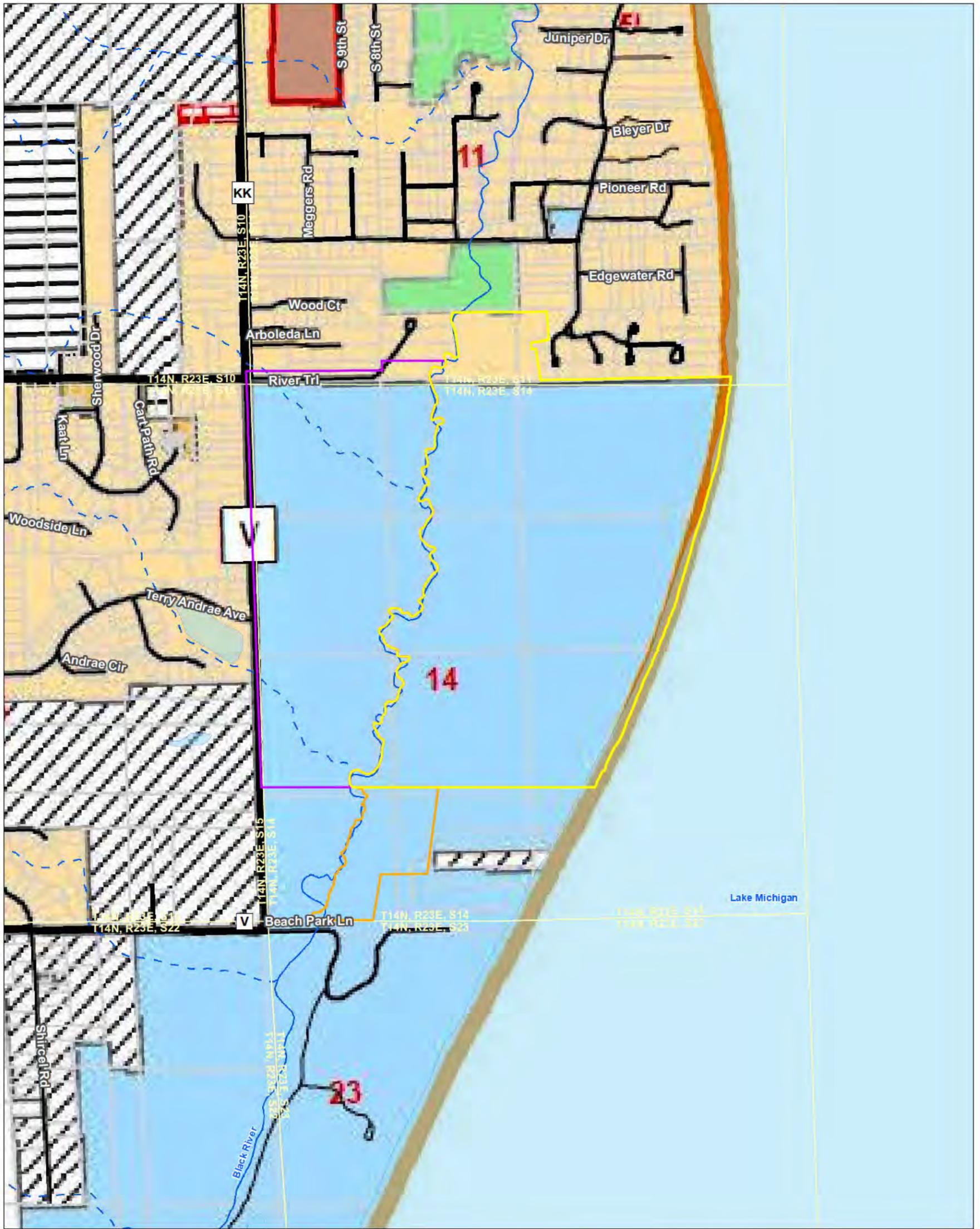
Title **Plat Map**

Client/Project
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location
 T14N R23E S11: 14
 T of Wilson Sheboygan Co WI

193703078
 Prepared by MCP on 2015-02-24
 Technical Review by MR on 2015-03-17
 Independent Review by JG on 2015-03-17





Legend

- Approximate Project Boundary Kohler Co. Property
- Approximate Project Boundary State Park Property
- Additional Study Area
- Town of Wilson Zoning A-2
- A-3
- CON
- P-1
- R-1
- R-2
- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody

Notes

- Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
- Data Sources Include: Stantec Kohler WDNR WDOT Sheboygan County
- Orthophotography: 2010 WROC

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Figure No. **4**

Title **Zoning Map**

Client/Project
Kohler Company
Proposed Golf Course - Town of Wilson

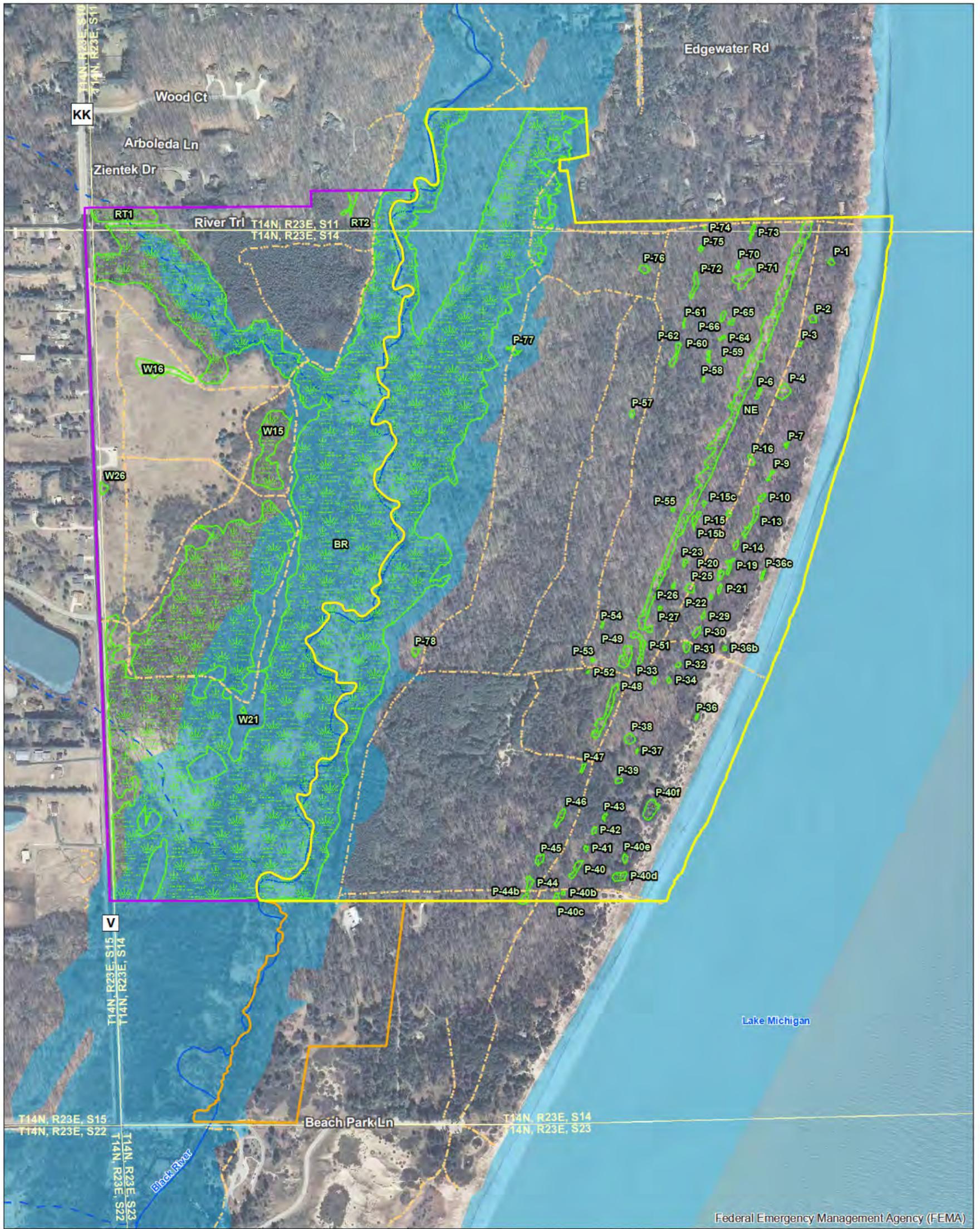
Project Location: T14N, R23E, S11; 14
T of Wilson, Sheboygan Co, WI

193703078
Prepared by MCP on 2015-02-24
Technical Review by MR on 2015-03-17
Independent Review by JG on 2015-03-17

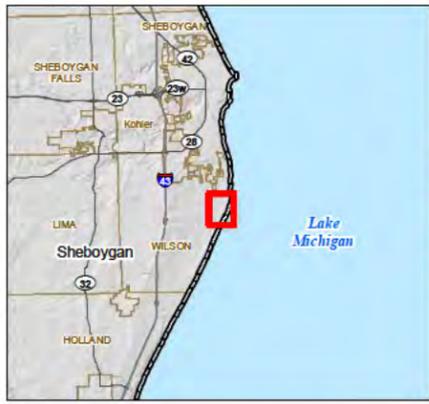
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Federal Emergency Management Agency (FEMA)



- Legend**
- Approximate Project Boundary Kohler Co. Property
 - Approximate Project Boundary State Park Property
 - Additional Study Area
 - Existing Trail
 - Field Delineated Wetland
 - FEMA 100 Year Flood Zone
 - DNR 24k Hydrography
 - ~ Perennial Stream
 - - - Intermittent Stream
 - Waterbody

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec Kohler WDNR WDOT FEMA
3. Orthophotography: 2010 WROC

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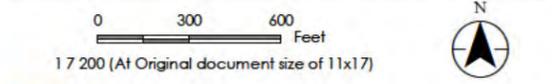
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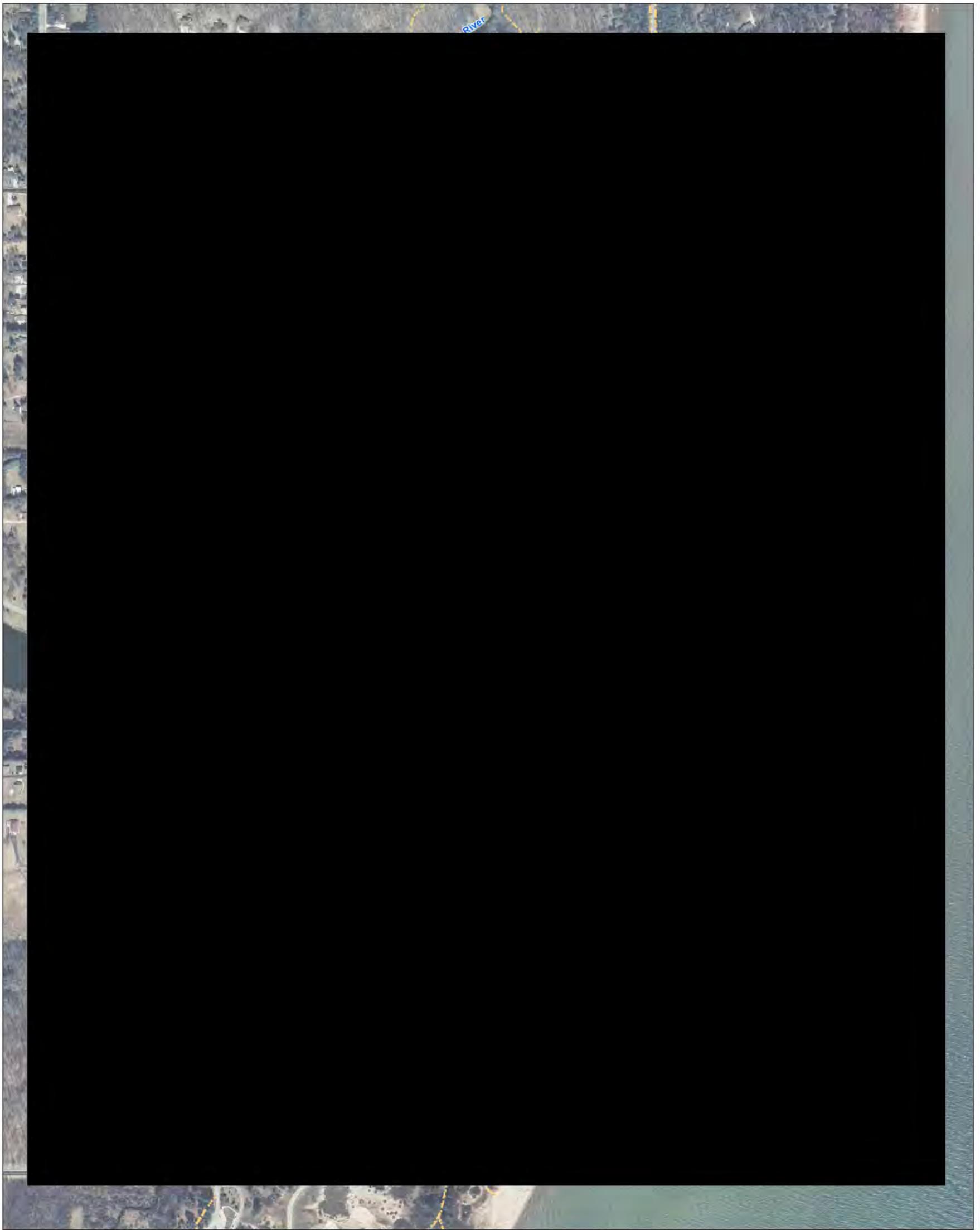
Title **Wetland Delineation and Floodplain Map**

Client/Project
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location: T14N, R23E, S11, S14
T of Wilson, Sheboygan Co, WI

193703078
Prepared by MCP on 2015-02-11
Technical Review by MR on 2015-03-17
Independent Review by JG on 2015-03-17





- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec WDNR WDOT
 3. Orthophotography: 2010 WROC

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Legend

- Approx. Project Boundary Kohler Co. Property
- Approx. Project Boundary State Park Property
- Additional Study Area
- Degraded Area (d)
- Existing Trail

Botanical Community



Figure No.

7

Title

Plant Communities Map

Client/Project

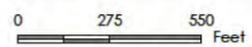
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location

T14N R23E S11: 14
T of Wilson Sheboygan Co WI

193703078

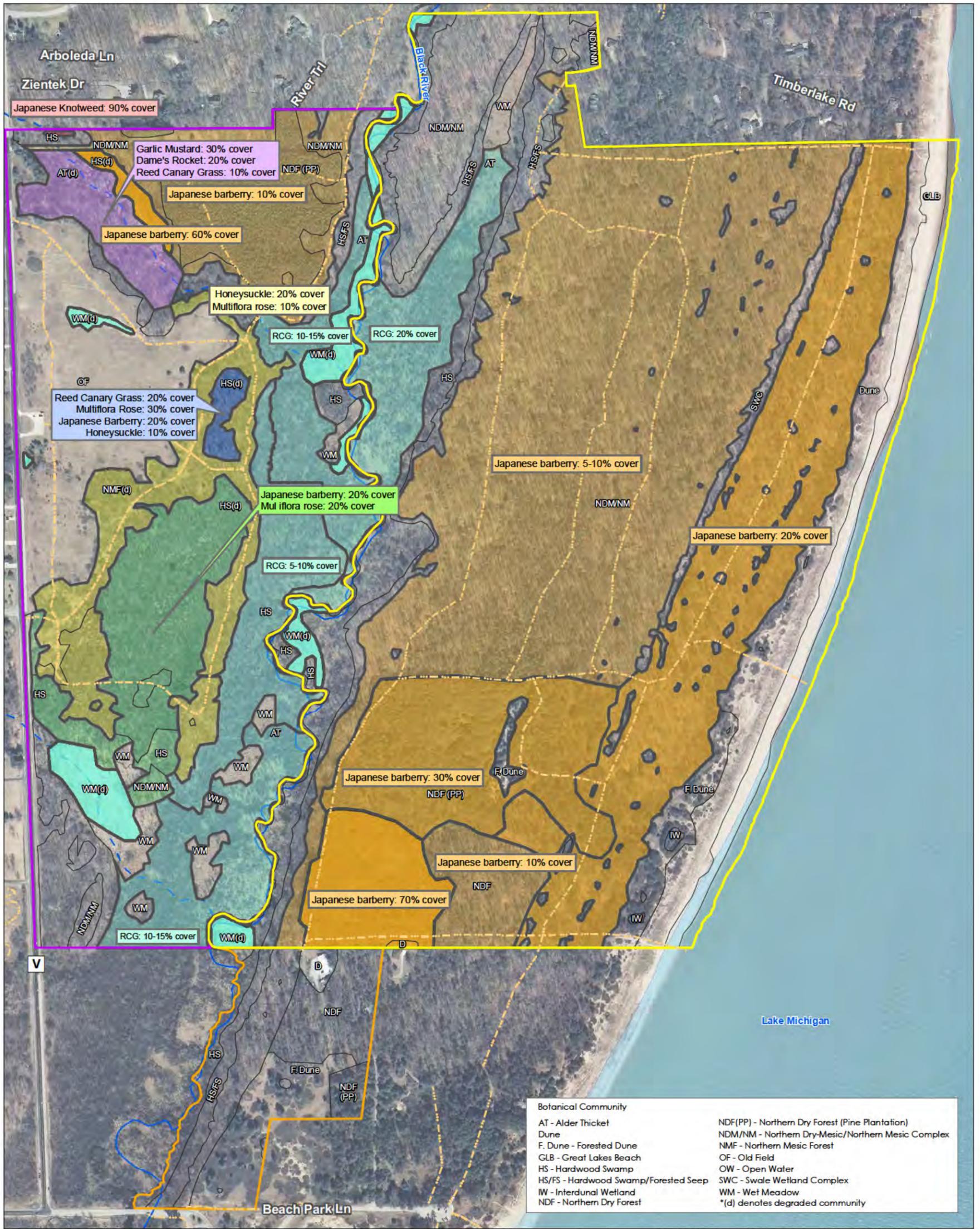
Prepared by MCP on 2014-10-30
Technical Review by MMP on 2014-10-30
Independent Review by JG on 2015-03-17



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| Botanical Community | |
|--------------------------------------|----------------------------------------------------|
| AT - Alder Thicket | NDF(PP) - Northern Dry Forest (Pine Plantation) |
| Dune | NDM/NM - Northern Dry-Mesic/Northern Mesic Complex |
| F. Dune - Forested Dune | NMF - Northern Mesic Forest |
| GLB - Great Lakes Beach | OF - Old Field |
| HS - Hardwood Swamp | OW - Open Water |
| HS/FS - Hardwood Swamp/Forested Seep | SWC - Swale Wetland Complex |
| IW - Interdunal Wetland | WM - Wet Meadow |
| NDF - Northern Dry Forest | *(d) denotes degraded community |



| Legend | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approximate Project Boundary Kohler Co. Property | Invasive Species Area |
| Approximate Project Boundary State Park Property (Not Surveyed for Invasive Plants) | Garlic Mustard (<i>Alliaria petiolata</i>) |
| Additional Study Area | Dame's Rocket (<i>Hesperis matronalis</i>) |
| Existing Trail | Reed Canary Grass (<i>Phalaris arundinacea</i>) |
| Botanical Community | Honeysuckle (<i>Lonicera</i> spp.) |
| DNR 24k Hydrography | Multiflora Rose (<i>Rosa multiflora</i>) |
| Perennial Stream | Japanese Barberry (<i>Berberis thunbergii</i>) |
| Intermittent Stream | Multiflora Rose (<i>Rosa multiflora</i>) |
| Waterbody | Japanese Barberry (<i>Berberis thunbergii</i>) |
| | Japanese Knotweed (<i>Polygonum cuspidatum</i>) |
| | Reed Canary Grass (<i>Phalaris arundinacea</i>) |
| | Multiflora Rose (<i>Rosa multiflora</i>) |
| | Japanese Barberry (<i>Berberis thunbergii</i>) |
| | Honeysuckle (<i>Lonicera</i> spp.) |
| | Reed Canary Grass (<i>Phalaris arundinacea</i>) |

Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, Excel, WDNR, WDOT
 3. Orthophotography: 2010 WROC

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Figure No. **8**
 Title **Invasive Plant Species Map**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location: 193703078
 T14N R23E S11: 14
 T of Wilson Sheboygan Co WI
 Prepared by MCP on 2014-10-30
 Technical Review by MMP on 2014-10-30
 Independent Review by JG on 2015-03-17

0 250 500 Feet
 1:6100 (At Original document size of 11x17)

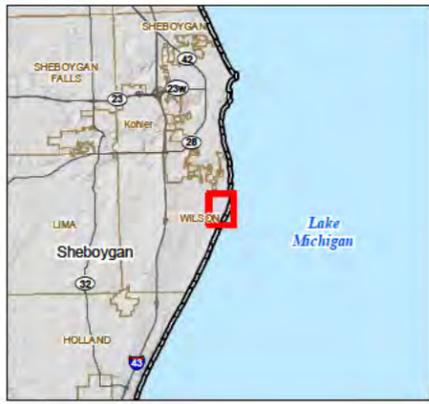


Figure No. **9B-1**
 Title **Project Alternative B-1**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11; 14 Prepared by MCP on 2015-02-11
 T of Wilson Sheboygan Co WI Technical Review by MR on 2015-04-09
 Independent Review by JG on 2015-04-09



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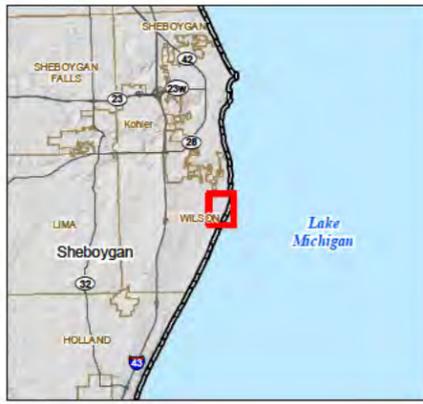
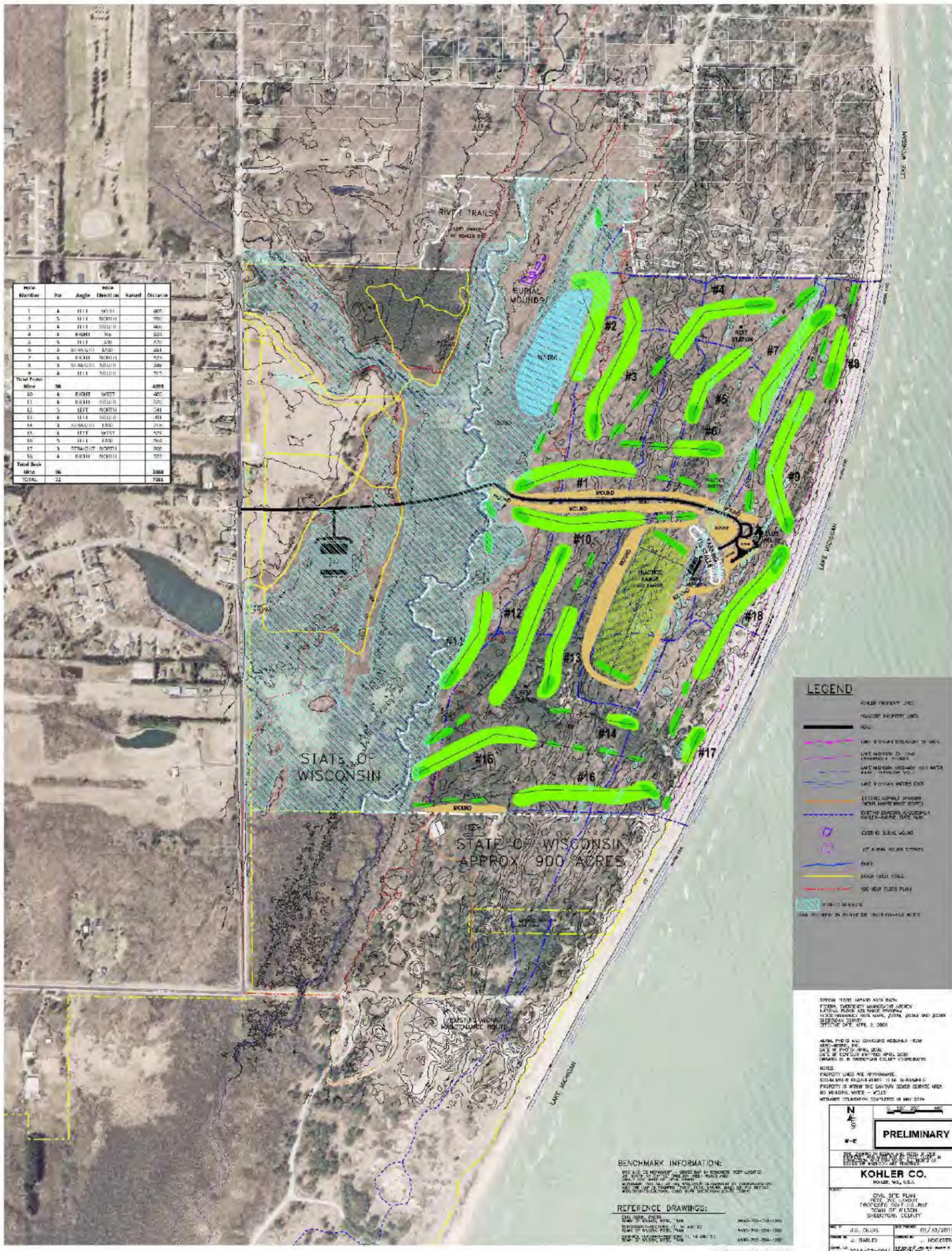
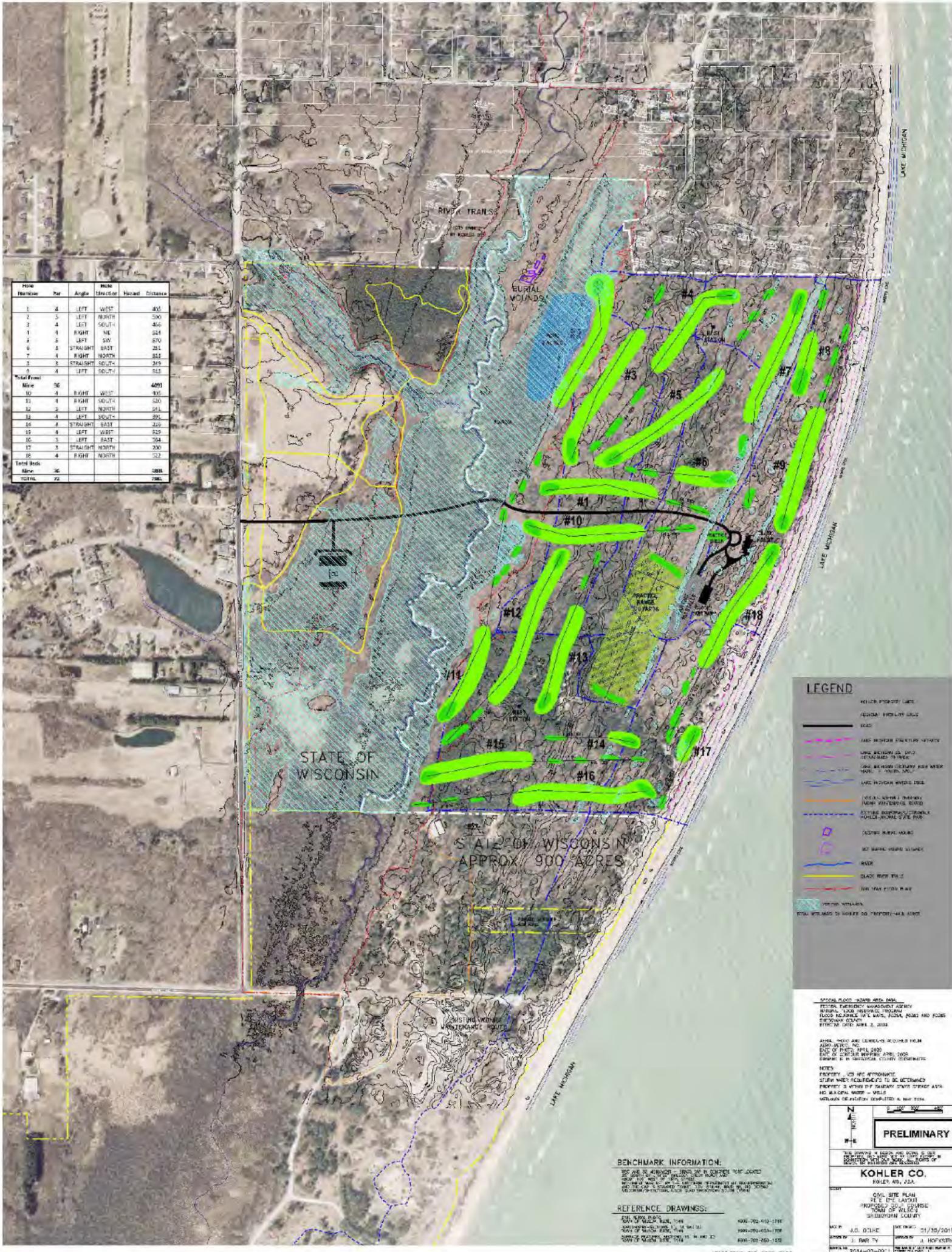


Figure No. **9B-2**
 Title **Project Alternative B-2**
 Client/Project **Kohler Company
 Proposed Golf Course - Town of Wilson**
 Project Location **T14N R23E S11; 14
 T of Wilson Sheboygan Co WI** 193703078
 Prepared by MCP on 2015-02-11
 Technical Review by MR on 2015-04-09
 Independent Review by JG on 2015-04-09



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LEGEND

- KOHLER PROPERTY LINES
- ADJACENT PROPERTY LINES
- ROAD
- LAKE HIGHWAY STATE BY SERVICE
- LAKE HIGHWAY STATE DETACHMENT TO ROAD
- LAKE HIGHWAY COUNTY ROAD KEEP MARKS TO ROAD ONLY
- LAKE HIGHWAY WHITE IDEA
- LOCAL HIGHWAY STATEWAY MARKS INTERSECTION
- STATEWAY SUPERSTRADE MARKS INTERSECTION
- ADJACENT BURIAL MOUNDS
- SET BACK VISIBLE SIGNAGE
- RAILROAD
- BLACK TOP PAVEMENT
- CONCRETE DRIVE DRIVE
- CONCRETE DRIVE DRIVE

PRELIMINARY

KOHLER CO.
FOLEY, MS, JSA

CIVIL SITE PLAN
SHEBOYGAN COUNTY
TOWN OF WILSON

DATE: 01/30/2015
DRAWN BY: J. HOFKINS
CHECKED BY: J. HOFKINS
SCALE: 1"=200'

PROJECT NO: 9999-702-9088-C156

BENCHMARK INFORMATION:
BENCH MARK NO. 1448
ELEVATION: 1448.00
DATE: 11/14/82

REFERENCE DRAWINGS:
SHEBOYGAN COUNTY RECORDS
TOWN OF WILSON RECORDS

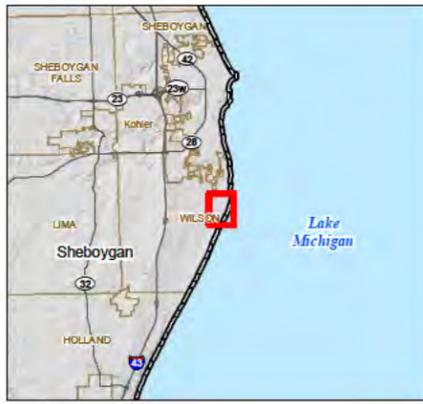


Figure No. **9C**
Title **Project Alternative C**

Client/Project
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location 193703078
T14N R23E S11; 14 Prepared by MCP on 2015-02-11
T of Wilson Sheboygan Co WI Technical Review by MR on 2015-04-09
Independent Review by JG on 2015-04-09



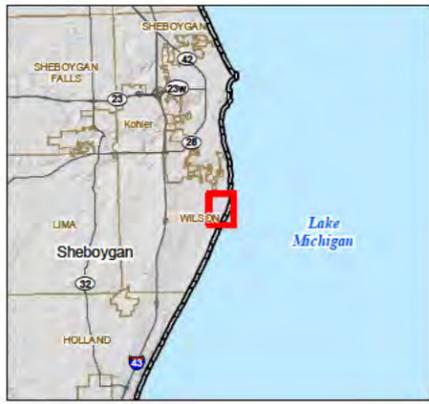
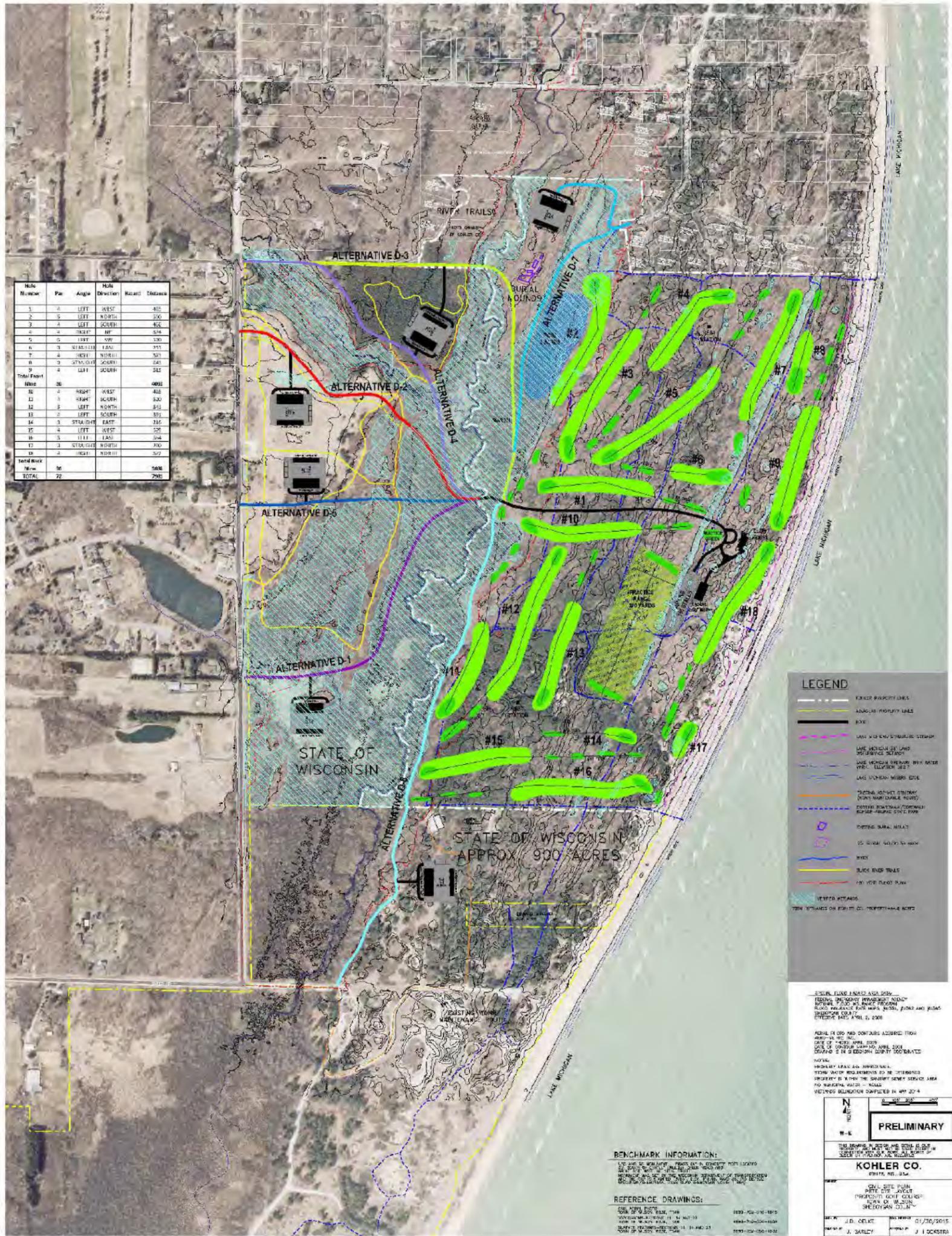


Figure No. **9D**
Project Alternatives D1 - D7

Client/Project
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11:14 Prepared by MCP on 2015-02-11
 T of Wilson Sheboygan Co WI Technical Review by MR on 2015-04-09
 Independent Review by JG on 2015-04-09



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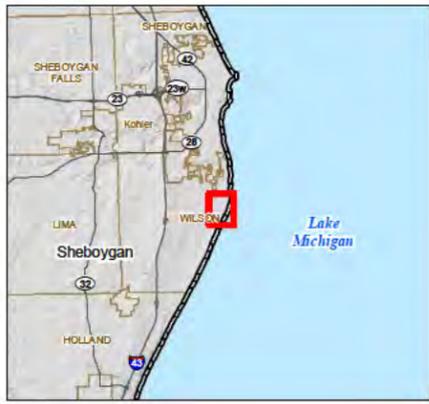
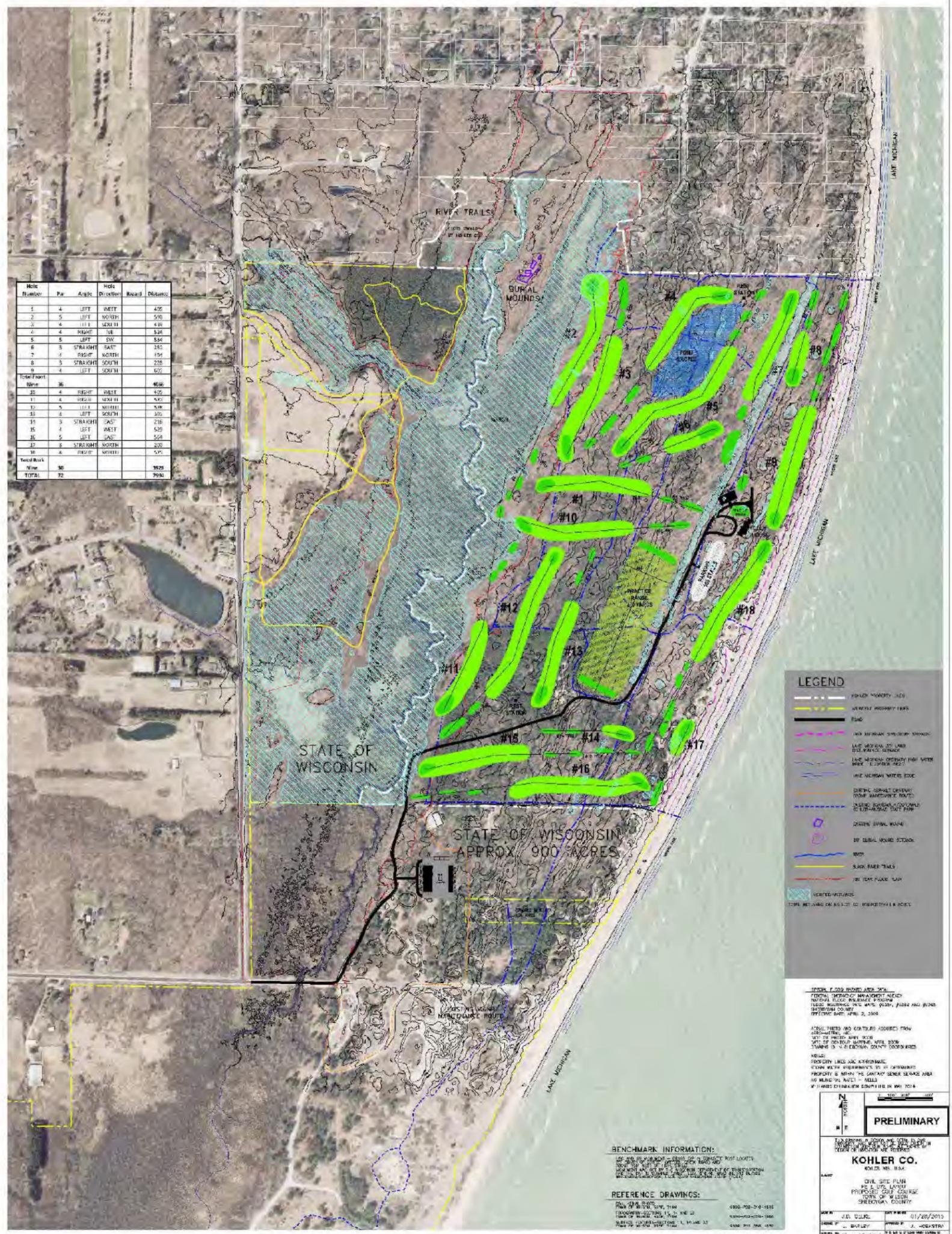


Figure No. **9E**
 Title **Project Alternative E (Preferred)**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11; 14 Prepared by MCP on 2015-02-11
 T of Wilson Sheboygan Co WI Technical Review by MR on 2015-04-09
 Independent Review by JG on 2015-04-09



Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

Wetland Delineation Report

Kohler Company Proposed Golf Course
Town of Wilson
Sheboygan County, Wisconsin
Stantec Project #: 193703078



Prepared for:
Jess Barley
Senior Project Manager
Kohler Company
444 Highland Drive
Kohler, WI 53044

Prepared by:
Stantec Consulting Services Inc.
209 Commerce Parkway,
Cottage Grove, Wisconsin 53527
Phone: (608) 839-1998
Fax: (608) 839-1995

A handwritten signature in black ink, appearing to read "Jeff Kraemer".

Jeff Kraemer W.P.I.T.

Principal Scientist, Environmental Management

April 9, 2015

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INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed an assured wetland determination and delineation of the Kohler Company Proposed Golf Course (the "Project Area") on behalf of Kohler Company (Kohler). The Project Area consists of two parcels including one 247-acre parcel adjacent to Lake Michigan which is owned by Kohler and one 135-acre parcel owned by the State of Wisconsin (State), located adjacent to the west limits of the Kohler parcel. The State of Wisconsin parcel is being evaluated for possible entrance road and maintenance facility alternative locations. More specifically, the Project Area is located in Sections 11 and 14, Township 14 North, Range 23 East, Town of Wilson, Sheboygan County, Wisconsin (Figure 1).

Prior to conducting the assured wetland determination and delineation, past wetland delineations conducted during the 2014 growing season by Excel Engineering, Inc. (Excel) in May 2014, (Excel, 2014) and delineations completed by Stantec staff in August 2014 were reviewed and considered during the assured wetland delineation. However, all wetland delineation work completed by Mr. Kraemer was done independent of previous wetland delineations, including completion of wetland/upland sample points. This report summarizes the results of the assured wetland delineation completed by Mr. Kraemer, a WDNR approved Assured Wetland Delineator.

The purpose and objective of the assured wetland determination and delineation was to identify the extent and spatial arrangement of wetlands within the Project Area. The wetland delineation was conducted over eight days (Sept, 19, 22, 29-30 and Oct. 13-14, 22- 23, 2014) by Jeff Kraemer, with assistance from Chuck Herrmann, Mark Remington and Everett Grosskopf. Eighty one wetland areas were identified within the Project Area. Wetland types and functional values within the Project Area were evaluated using WDNR Wetland Rapid Assessment Methodology (WRAM) version 2.0.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority lies with the U.S. Army Corps of Engineers (USACE). Additionally, the Wisconsin Department of Natural Resources (WDNR) has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Stantec recommends this report be submitted to local authorities, the WDNR and USACE for final jurisdictional review and concurrence.

1.0 METHODS

1.1 WETLANDS

Wetland determinations were based on the criteria and methods outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2011), United States Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (1987), and subsequent guidance documents (USACE 1991, 1992), Guidelines for Submitting Wetland Delineations in Wisconsin to the St. Paul District Corps of Engineers (USACE 1996), and the Basic Guide to Wisconsin's Wetlands and their Boundaries (Wisconsin Department of Administration Coastal Management Program 1995). Wetlands were grouped into categories based on the community classification of Eggers & Reed, version 3.1 (2014).

The wetland determination involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, aerial photography and previous 2014 wetland delineation data completed by Excel and Stantec.

On-site wetland determinations were made using the three criteria (vegetation, soil, and hydrology) and technical approach defined in the USACE 1987 Manual and applicable Regional Supplement. According to procedures described in the 1987 Manual and applicable Regional Supplement, areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands.

Additionally, as climate plays an important role in the formation and identification of wetlands, the antecedent precipitation in the months leading up to the field investigations was reviewed. The current year's precipitation data was compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

The uppermost wetland boundary and sampling points were flagged and surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software.

1.2 WETLAND FUNCTIONAL ASSESSMENT

Wetland types and functional values within the Project Area were evaluated using WDNR Wetland Rapid Assessment Methodology (WRAM) version 2.0. Qualified botanists collected vegetation community data to support completion of the wetland functional assessment during site visits on September 22, 24 and October 2, 2014. In order to evaluate functional values among wetland types, wetlands were grouped into categories based on the community classification of Eggers & Reed, version 3.1 (2014), and WDNR-NHI Wetland Communities of Wisconsin (2014), taking into account species diversity and/or modification due to current or past land uses.

2.0 RESULTS

2.1 SITE DESCRIPTION

The Project Area consists of a mix of upland and a variety of wetland habitats including, alder thicket, beach, dunes, interdunal, ridge and swale, floodplain forest, wet meadow, mosaic beech/maple wetland/upland complex, old field, upland forest, and pine plantations. The Black River is located in the central portion of the Project Area in a north-south orientation and delineates the parcel boundary between the Kohler and State-owned parcel. The Kohler parcel consists of nearly level to undulating terrain characterized by the Lake Michigan beach, dunes, and alternating ridges and swales oriented parallel to the Lake Michigan shoreline. With the exception of the open beach and dune areas located adjacent to the lake, most of the Kohler parcel is forested, with smaller areas of shrub and herbaceous vegetation located in the west portion of the parcel within the Black River floodplain. The State parcel, which is part of Kohler-Andrae State Park, consists of nearly level to gently rolling terrain generally sloping from a topographic high on the west to the Black River on the east. Two intermittent streams flowing from northwest to southeast cross the State Property, and discharge into the Black River. The State parcel is comprised of forested, shrub, and herbaceous vegetation.

Soils mapped within the Project Area by the NRCS Soil Survey of Sheboygan County are listed below in Table 2.1.1 and are shown on Figure 2. The hydric soil status along with drainage classification of each soil unit, as indicated by the NRCS List of Hydric Soils for Sheboygan County, is also included in the table. Wetlands identified during the field investigation are located primarily within areas mapped as hydric soils, with the exception of most wetlands located within the depressions associated with the interdunal and ridge and swale complex.

TABLE 2.1.1: Soil Survey Map Units within Project Area

| Sheboygan County, Wisconsin Soil Survey Name and Map Unit | Drainage Classification | Hydric Rating |
|-----------------------------------------------------------------------|-------------------------|----------------------|
| Adrian muck (Ag) | Very poorly drained | Predominantly Hydric |
| Alluvial land, wet (An) | Poorly drained | Predominantly Hydric |
| Beaches, sandy (Bd) | Moderately well drained | Non- Hydric |
| Dune land (Dn) | Excessively drained | Non- Hydric |
| Granby loamy fine sand (Gb) | Very poorly drained | Predominantly Hydric |
| Hebron sandy loam, sandy subsoil variant, 2 to 6 percent slopes (HfB) | Moderately well drained | Non- Hydric |
| Houghton muck (Hu) | Very poorly drained | Predominantly Hydric |
| Oakville loamy fine sand, 0 to 6 percent slopes (OaB) | Moderately well drained | Non- Hydric |
| Oakville loamy fine sand, 6 to 12 percent slopes (OaC) | Well drained | Non- Hydric |
| Palms muck (Pa) | Very poorly drained | Predominantly Hydric |
| Sisson very fine sandy loam, 2 to 6 percent slopes (SrB) | Well drained | Non- Hydric |

The Wisconsin Wetland Inventory (WWI) map identifies two wetland areas within the Project Area (Figure 3). One T3/E2K (broad-leaved deciduous/emergent palustrine) wetland is located on the northeast portion of the property and one T3/E1K (broad-leaved deciduous/emergent palustrine) wetland associated with the Black River floodplain and tributary streams located within the central portion of the site (Figure 3). The field delineated wetlands on the State parcel and along the Black River are located within the same vicinity as wetlands identified on the WWI map. In addition to the wetlands identified on the WWI map for the Kohler parcel, numerous small depressional wetlands were delineated.

Precipitation data was obtained from the Sheboygan weather station and used for the WETS analysis (Appendix B). Based on the WETS analysis, conditions were drier than normal to normal.

2.2 WETLANDS

Eighty one wetlands were identified and delineated within the Project Area. Wetland determination data forms were completed for 238 sample points along transects through the wetlands and adjacent lands and contained in Appendix C. Representative photographs of the wetlands and adjacent uplands are contained in Appendix D along with a CD of photos from each sample point. The wetland boundary and sample point locations are shown on Figure 4.

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils and topography consisting of the following: 1) Transition from, alder thicket, hardwood swamp, seasonally flooded basin, or wet meadow wetland communities dominated by hydrophytic vegetation to upland communities including dune, fallow old field, or woodlands (dune or Northern dry, dry-mesic, mesic); 2) Transition from saturated soils within the wetland to lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from poorly drained hydric soils to non-hydric soils. Please note that numerous seasonally flooded basins on the Kohler Property did not contain primary indicators of wetland hydrology during the fall 2014 delineation; however, data collected during spring 2014 field delineations indicate that wetland hydrology was observed. In these cases, wetlands were identified as containing naturally problematic hydrology due to seasonal limitations of observing saturated or inundated soils. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break.

Wetland characteristics are summarized in Appendix E (Table 1) and communities are described in detail in the following sections. Please note that multiple wetlands within the Project Area contain more than one wetland community.

2.2.1 Alder Thicket

Alder Thicket wetland communities are present in extensive areas within the Black River floodplain and tributary streams (Wetland BR) and are also present in portions of the contiguous linear wetland (Wetland NE) located within the Kohler parcel. This community is characterized by the dominant shrub species, speckled alder (*Alnus incana*), and a perennially saturated substrate. Occasional green ash (*Fraxinus pennsylvanica*) and box elder (*Acer negundo*) occur within the alder thicket. Common ground layer species include blue-joint grass (*Calamagrostis canadensis*), common lake sedge (*Carex lacustris*), fowl manna grass (*Glyceria striata*), and reed canary grass (*Phalaris arundinacea*).

2.2.2 Hardwood Swamp

Hardwood Swamp wetland communities occur within the floodplain of the Black River, along tributary streams, and in depressions within the State parcel and Kohler parcel. The community is characterized by a relatively open tree canopy with 50 to 75% cover, dominated by green ash and sugar maple (*Acer saccharum*). The understory varies from brushy to relatively open. Speckled alder and Japanese barberry (*Berberis thunbergii*) are dominant in the shrub layer. Common herbaceous species include common tussock sedge (*Carex stricta*), blue-joint grass, white avens (*Geum candense*), giant goldenrod (*Solidago gigantea*), blue iris (*Iris virginica*), skunk cabbage (*Symplocarpus foetidus*) and sensitive fern (*Onoclea sensibilis*). In addition, small shrub-carr components commonly are located within this community, primarily dominated by red osier dogwood (*Cornus alba*).

2.2.3 Mosaic Beech/Maple Complex

A mosaic of upland and wetland Beech/Maple woodland occurs within the northeast portion of Black River floodplain (Wetland BR) from the north property line extending south to sample point BR-8AW. The community is approximately 3.88 acres and is characterized by a moderately closed tree canopy with 50-75% cover, dominated by American beech (*Fagus grandifolia*), and sugar maple. Sample points BR-9AU and BR-10BU represent typical upland cradle-knolls conditions present within this community. The wetland boundary within this community was identified to incorporate all wetland components of the mosaic area, which includes many upland knolls that were too small and numerous to identify individually. Using best professional judgment, this community was estimated to be comprised of approximately 90 percent wetland, although extensive sampling was not conducted within the area to quantify wetland/upland percentages.

2.2.4 Seasonally Flooded Basin

Seasonally Flooded Basin wetland communities include two complexes of wetland types; Great Lakes Ridge and Swale complex along with linear interdunal swale landforms located parallel to the lakeshore that alternate with stabilized dune ridges. 56 ridge and swale wetlands occur within the Northern Dry-Mesic and Mesic Forest communities of the Kohler parcel. Approximately 4 linear interdunal wetlands occur within a matrix of forested dune and dune communities near the Lake shore on the Kohler parcel. The majority of these wetlands consist of small depressions comprised predominantly of wet meadow vegetation, with occasional components of alder thicket, forested wetland, and vernal pools represented. Tree canopy coverage within these wetlands is minimal, though occasional trees are present within the wetlands. Hydrology varies from dry to seasonal saturation. Generally, the wetlands are widely-spaced farther to the west. Dominant vegetation includes blue-joint grass, northern water-horehound (*Lycopus uniflorus*), tussock sedge, fowl manna grass, stinging nettle (*Urtica dioica*), and Baltic rush (*Juncus arcticus*) in the herbaceous layer; speckled alder, Japanese barberry, and red raspberry (*Rubus idaeus* var. *strigosus*) in the shrub layer; and green ash in the tree layer.

2.2.5 Wet Meadow

The wet meadow communities primarily exist within the Black River floodplain, primarily along the river banks. This community is also present in Wetland NE located within the Kohler Property. Dominant vegetation includes blue-joint grass, reed canary grass, giant goldenrod, Canada goldenrod (*Solidago canadensis*), common lake sedge, common tussock sedge, and Canadian wood-nettle (*Laportea canadensis*). Scattered within portions of the wet meadow community are speckled alder in the shrub stratum along with green ash and boxelder in the tree stratum.

2.3 UPLAND

Uplands within the Project Area consist of dune, beach, forest dune, Northern forest (dry, dry-mesic, mesic), fallow old field and pine plantation. Common species include sand-reed grass (*Calamovilfa longifolia* var. *magna*), common juniper (*Juniperus communis*) creeping junipers (*Juniperus horizontalis*), sugar maple, American beech, red oak (*Quercus rubra*), black cherry (*Prunus serotina*), green ash, quaking aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), Japanese barberry, multiflora rose (*Rosa multiflora*), Pennsylvania sedge (*Carex pensylvanica*), wood fern (*Dryopteris carthusiana*), smooth brome (*Bromus inermis*), timothy (*Phleum pratense*), quackgrass (*Elymus repens*), Canada goldenrod and common milkweed (*Asclepias syriaca*). The uplands lack field indicators of hydric soil, and are not located in landscape positions that typically support wetland communities. Consequently these areas were not delineated as wetland.

2.4 FLORISTIC QUALITY ASSESSMENT

Wetland functional quality assessments were completed, for a total of nine wetland types, consisting of six distinct natural communities and three additional degraded components of those communities. WRAM forms and associated species lists are included in Appendix F. A map depicting the Assessment Area and the 100-m Buffer is included in Figure 5.

Wetland functional values identified for the wetlands within the Project Area include human use values, floristic integrity, wildlife habitat, shoreline protection, flood and stormwater storage, water quality protection, and groundwater processes. Of these, the most significant wetland functional values within the Project Area were wildlife habitat, floristic integrity, and groundwater processes.

2.5 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands within the Project Area. Kohler Company is completing other site specific-studies applicable to Federal, state, or local authority.

2.6 AGENCY FIELD REVIEW

Stantec and Kohler staff met with WDNR and USACE staff on the Project Area on October 8 and October 17, 2014 to review the Project Area, wetland delineation approach and findings. WDNR and USACE staff was in agreement with the assured wetland delineation approach and preliminary results presented by Stantec during the October 8 and 17, 2014 meeting. Table 2.6.1 summarizes attendees for each meeting.

Table 2.6.1 On Site Agency Field Review Meetings

| Staff Present | October 8, 2014 | October 17, 2014 |
|-------------------------|-----------------|------------------|
| Jeff Kraemer, Stantec | X | X |
| Mark Remington, Stantec | X | |
| Pat Trochlell, WDNR | X | |
| Kathi Kramasz, WDNR | X | X |
| Jay Schiefelbein, WDNR | X | |
| Jess Barley, Kohler | X | X |
| Jay Hoekstra, Kohler | X | X |
| Jeff Voltz, WDNR | X | X |
| Joey Shoemaker, USACE | | X |

3.0 CONCLUSION

Stantec performed an assured wetland determination and delineation of the Project Area on behalf of Kohler Company. The Project Area includes parcels owned by Kohler Company and the State of Wisconsin, totaling 382 acres located in Sections 11 and 14, Township 14 North, Range 23 East, Town of Wilson, Sheboygan County, Wisconsin. The purpose and objective of the assured wetland determination and delineation was to identify the extent and spatial arrangement of wetlands within the Project Area.

Eighty one (81) wetlands were identified and delineated on the State and Kohler parcels in accordance with state and federal guidelines and were subsequently flagged, surveyed with GPS, and mapped using GIS software. There were 44.91 acres of wetlands identified on the Kohler parcel and 79.21 acres of wetlands identified on the State parcel. Wetlands are composed of alder thicket, hardwood swamp, seasonally flooded basins, and wet meadow. Adjacent uplands are composed of dune, Great Lakes beach, forest dune, Northern forest (dry, dry-mesic, mesic), fallow old field and pine plantation.

The USACE has regulatory authority over Waters of the U.S. including adjacent wetlands, and the WDNR has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work to comply with applicable regulations.

The information provided by Stantec regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present on the site at the time of the fieldwork. The delineation was performed by experienced and qualified professionals using standard practices and sound professional judgment. The ultimate decision on wetland boundaries rests with the USACE and, in some cases, the WDNR or a local unit of government. As a result, there may be adjustments to boundaries based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to recent precipitation patterns and the season of the year. In addition, the physical characteristics of the site can change over time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands within the Project Area.

4.0 REFERENCES

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Environmental Laboratory. (1987). *Corps of Engineers wetlands delineation manual*. (TR Y-87-1). Vicksburg, MS: U.S. Army Engineers Waterways Experiment Station.

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APPENDICES

Appendix A – Figures

Figure 1. Project Location and Topography (USGS)

Figure 2. NRCS Soil Survey Data (SSURGO Data)

Figure 3. Wisconsin Wetland Inventory

Figure 4. Field Delineated Wetland Boundary Survey Map

Figure 5. Wisconsin Wetland Rapid Assessment Area and 100-m Buffer

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Legend
 Approximate Project Boundary

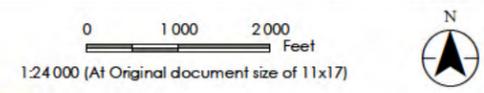
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 2. Data Sources Include: Stantec Kohler Esri
 3. Background: USGS 7.5' Topographic Quadrangles

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

Figure No. **1**
 Title **Project Location and Topography**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

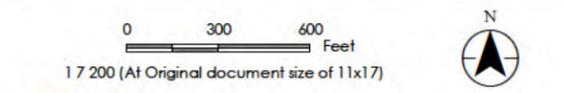
Project Location 193703078
 T14N R23E S11; 14 Prepared by MCP on 2014-11-17
 T of Wilson Sheboygan Co WI Technical Review by JD on 2014-12-15
 Independent Review by JG on 2015-03-19





- Legend**
- Approximate Project Boundary
 - Existing Trail
 - NRCs Soil Survey Data
 - Predominantly Hydric Soils
 - Partially Hydric Soils
 - Non-Hydric Soils
 - DNR 24k Hydrography
 - Perennial Stream
 - Intermittent Stream
 - Waterbody

Figure No. **2**
 Title **NRCs Soil Survey Data**
 Client/Project **Kohler Company
 Proposed Golf Course - Town of Wilson**
 Project Location **T14N, R23E, S11, S14
 T of Wilson, Sheboygan Co, WI**
 Prepared by MCP on 2014-11-17
 Technical Review by JD on 2014-12-15
 Independent Review by JG on 2015-03-19



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Kohler WDNR WDOT NRCs
 3. Orthophotography: 2010 WROC
 Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

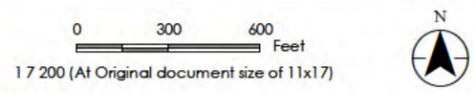


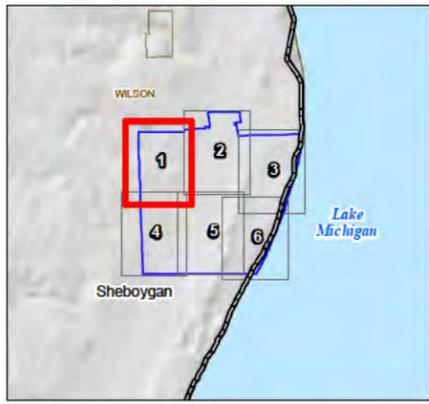
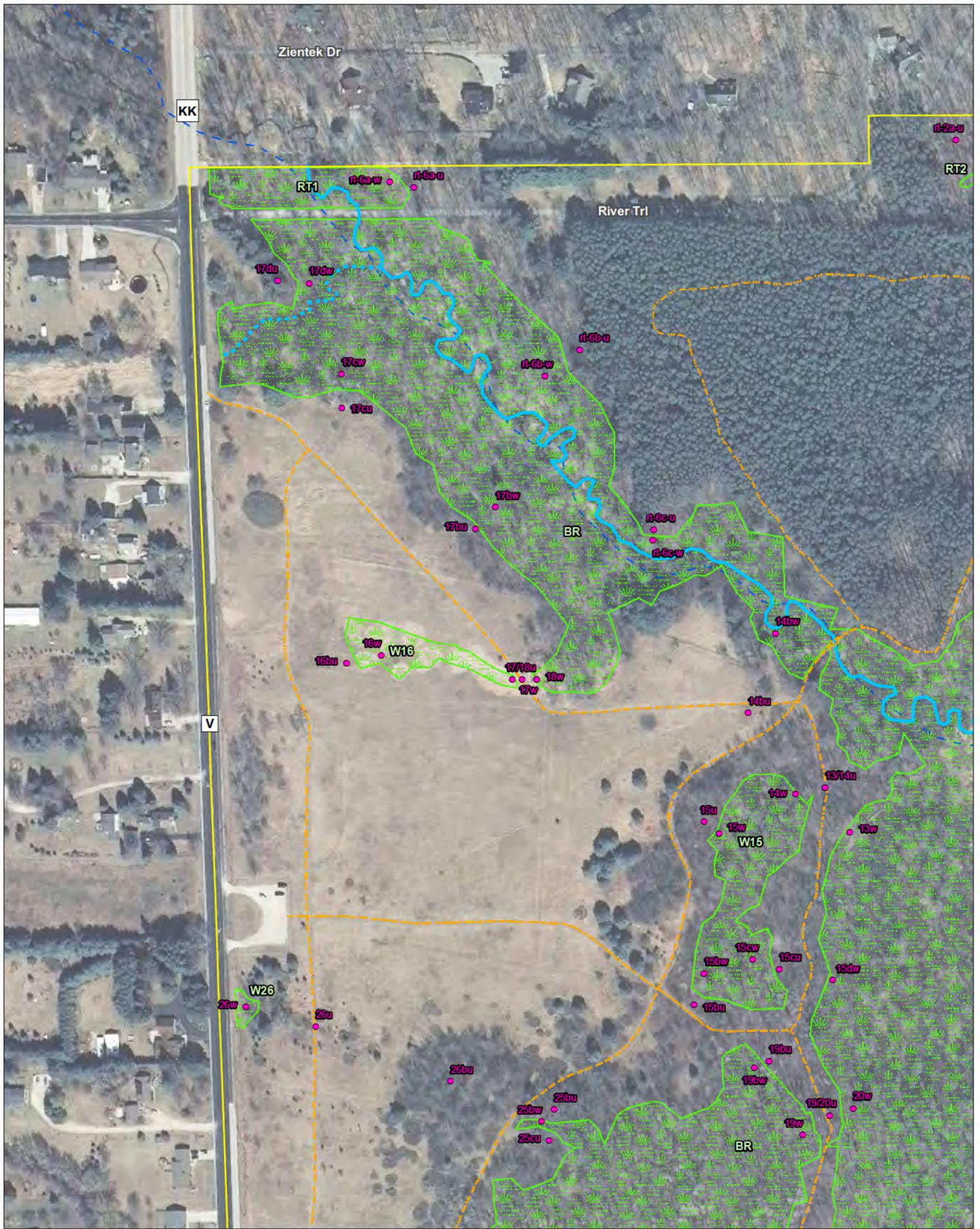
- Legend**
- Approximate Project Boundary
 - Existing Trail
 - Wisconsin Wetland Inventory
 - DNR 24k Hydrography
 - Perennial Stream
 - Intermittent Stream
 - Waterbody

- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Kohler WDNR WDOT
 3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

Figure No. **3**
 Title **Wisconsin Wetland Inventory**
 Client/Project **Kohler Company
 Proposed Golf Course - Town of Wilson**
 Project Location **T14N R23E S11: 14
 T of Wilson Sheboygan Co WI**
 Prepared by MCP on 2014-11-17
 Technical Review by JD on 2014-12-15
 Independent Review by JG on 2015-03-19





- Legend**
- Approximate Project Boundary
 - Existing Trail
 - Sample Point
 - Field Delineated Wetland
 - Mosaic Beech/Maple Complex
 - Aerially Identified Perennial Stream
 - Aerially Identified Intermittent Stream
 - Aerially Identified Stream Area
 - ~ DNR 24k Hydrography Perennial Stream
 - - - DNR 24k Hydrography Intermittent Stream
 - Waterbody

Notes

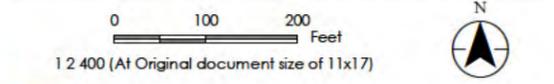
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2. Data Sources Include: Stantec Kohler WDNR WDOT
3. Orthophotography: 2010 WROC

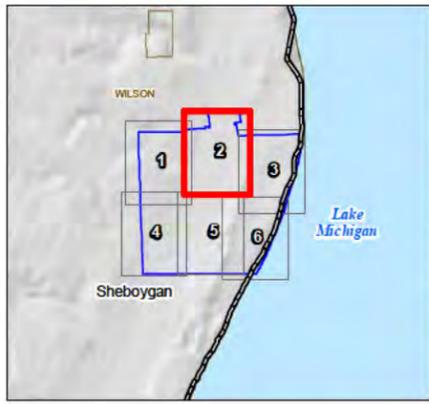
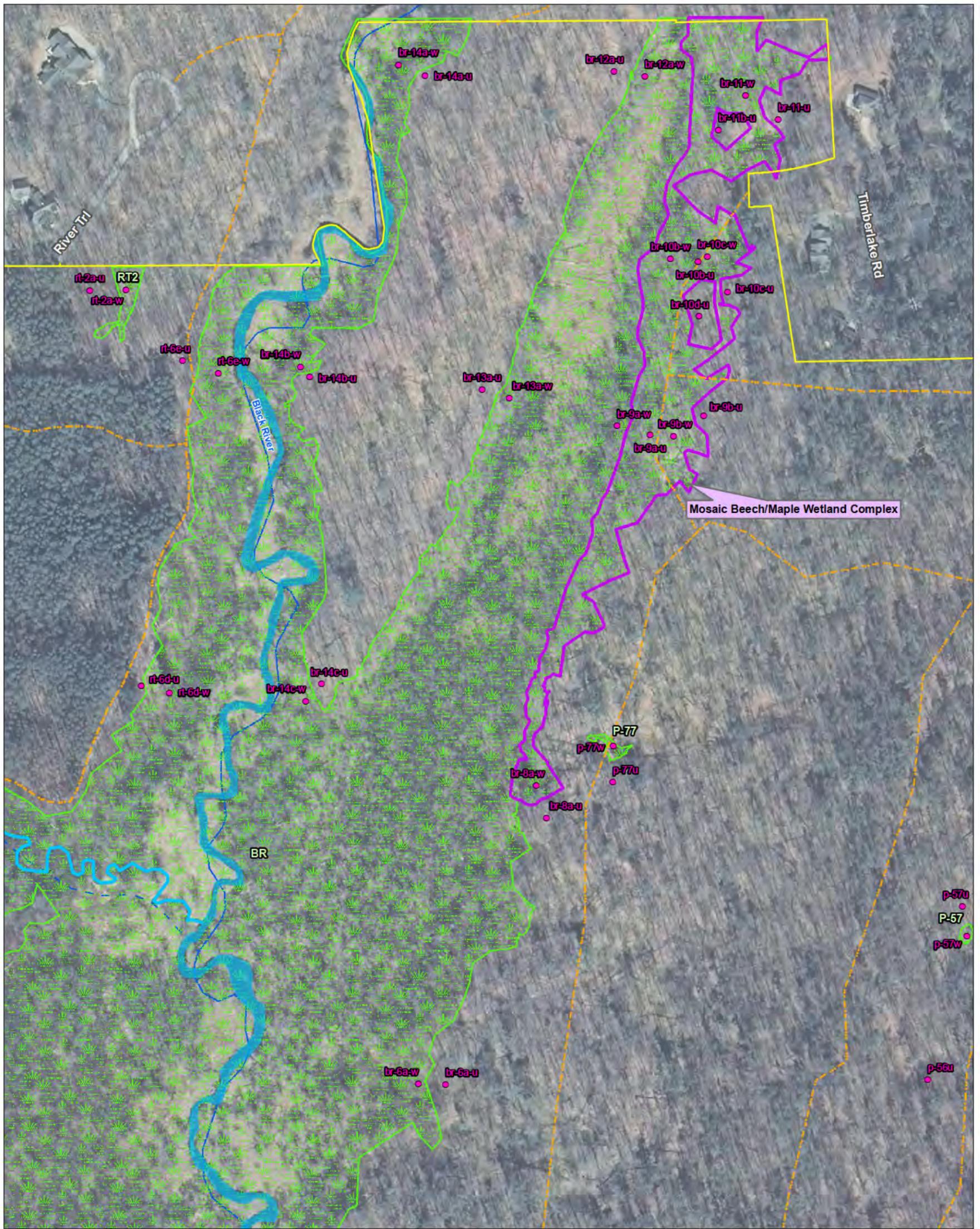
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

Figure No. **4**
 Title **Field Collected Data**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location: T14N R23E S11:14 T of Wilson Sheboygan Co WI
 Prepared by MCP on 2014-11-17
 Technical Review by DG on 2014-12-15
 Independent Review by JG on 2015-03-19





- Legend**
- Approximate Project Boundary
 - Existing Trail
 - Sample Point
 - Field Delineated Wetland
 - Mosaic Beech/Maple Complex
 - Aerially Identified Perennial Stream
 - Aerially Identified Intermittent Stream
 - Aerially Identified Stream Area
 - ~ DNR 24k Hydrography
 - ~ Perennial Stream
 - - - Intermittent Stream
 - Waterbody

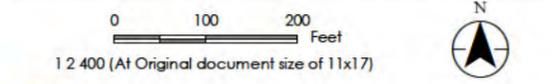
- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Kohler WDNR WDOT
 3. Orthophotography: 2010 WROC

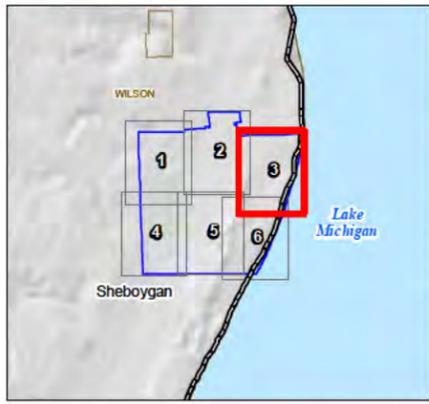
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

Figure No. **4**
 Title **Field Collected Data**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11; 14 Prepared by MCP on 2014-11-17
 T of Wilson Sheboygan Co WI Technical Review by DG on 2014-12-15
Independent Review by JG on 2015-03-19





- Legend**
- Approximate Project Boundary
 - Existing Trail
 - Sample Point
 - Field Delineated Wetland
 - Mosaic Beech/Maple Complex
 - Aerially Identified Perennial Stream
 - Aerially Identified Intermittent Stream
 - Aerially Identified Stream Area
 - DNR 24k Hydrography
 - ~ Perennial Stream
 - - - Intermittent Stream
 - Waterbody

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec Kohler WDNR WDOT
3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

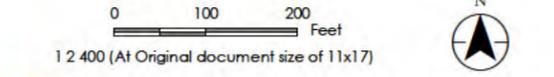
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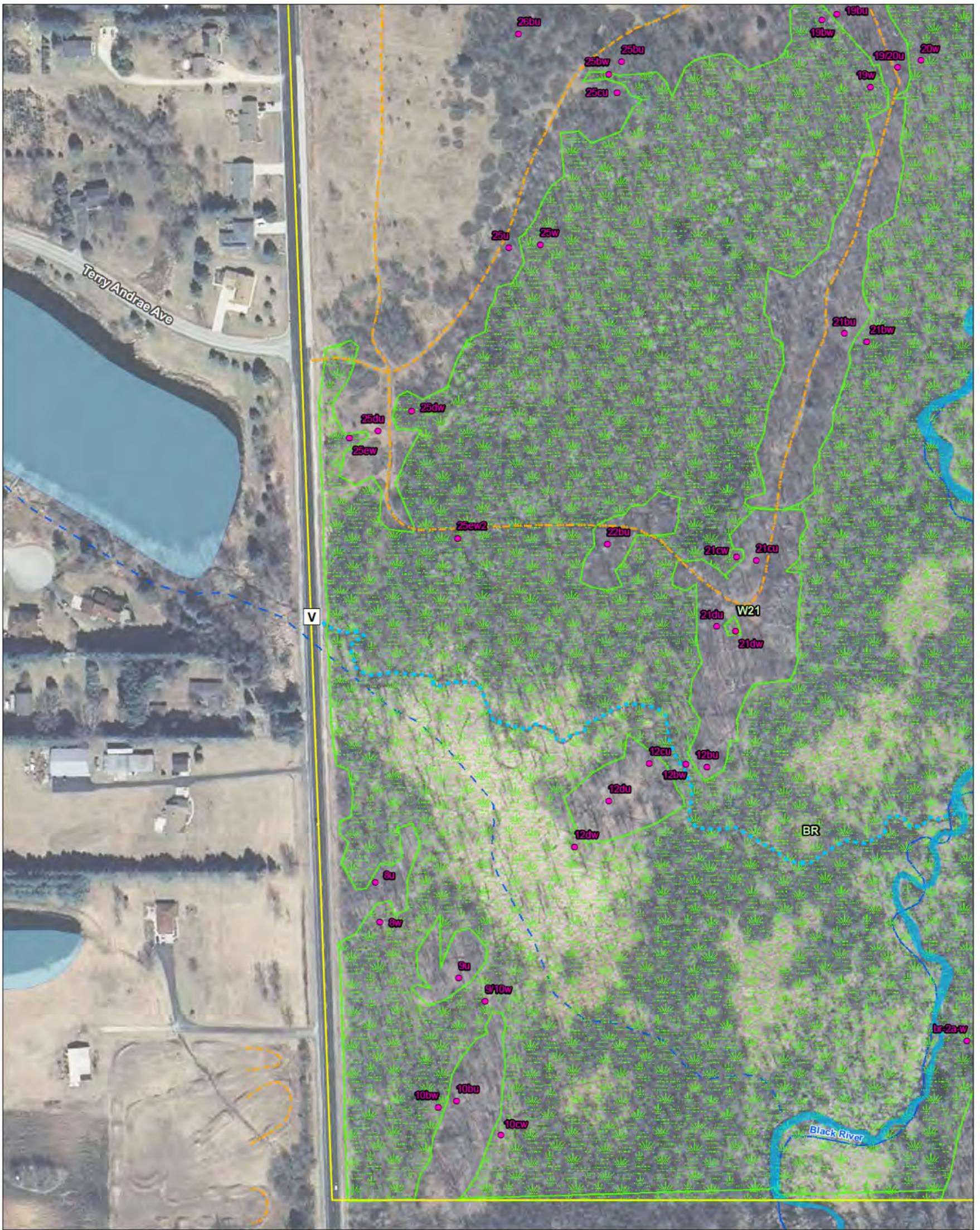
Title **Field Collected Data**

Client/Project
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location: T14N R23E S11; 14
 T of Wilson Sheboygan Co WI

193703078
 Prepared by MCP on 2014-11-17
 Technical Review by DG on 2014-12-15
 Independent Review by JG on 2015-03-19





Legend

- Approximate Project Boundary
- Existing Trail
- Sample Point
- Field Delineated Wetland
- Mosaic Beech/Maple Complex
- Aerially Identified Perennial Stream
- Aerially Identified Intermittent Stream
- Aerially Identified Stream Area
- ~ DNR 24k Hydrography
- ~ Perennial Stream
- - - Intermittent Stream
- Waterbody

Figure No.

4

Title

Field Collected Data

Client/Project

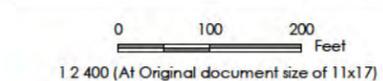
Kohler Company
Proposed Golf Course - Town of Wilson

Project Location

T14N R23E S11; 14
T of Wilson Sheboygan Co WI

193703078

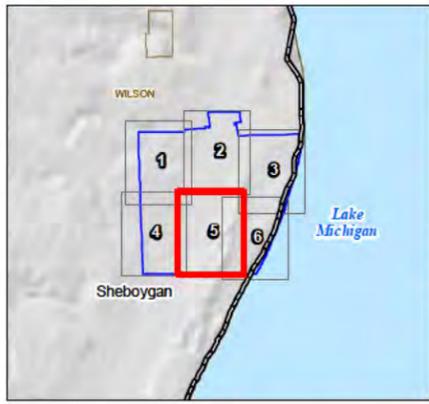
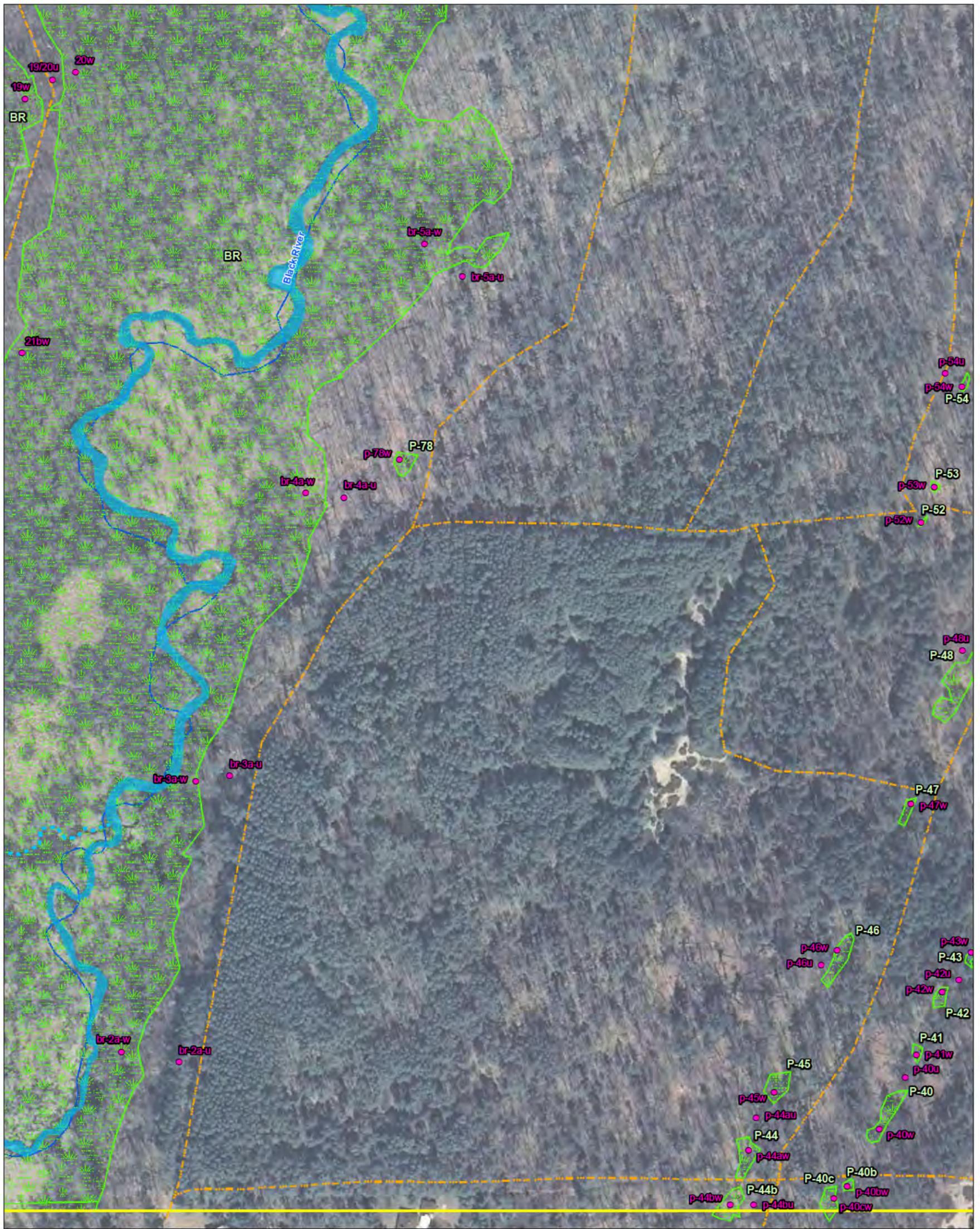
Prepared by MCP on 2014-11-17
Technical Review by DG on 2014-12-15
Independent Review by JG on 2015-03-19



- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Kohler WDNR WDOT
 3. Orthophotography: 2010 WROC

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- Legend**
- Approximate Project Boundary
 - Existing Trail
 - Sample Point
 - Field Delineated Wetland
 - Mosaic Beech/Maple Complex
 - Aerially Identified Perennial Stream
 - Aerially Identified Intermittent Stream
 - Aerially Identified Stream Area
 - DNR 24k Hydrography
 - ~ Perennial Stream
 - - - Intermittent Stream
 - Waterbody

Notes

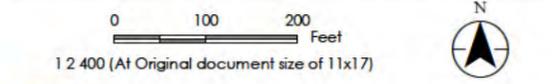
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2. Data Sources Include: Stantec Kohler WDNR WDOT
3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

Figure No. **4**
 Title **Field Collected Data**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11; 14 Prepared by MCP on 2014-11-17
 T of Wilson Sheboygan Co WI Technical Review by DG on 2014-12-15
 Independent Review by JG on 2015-03-19





Legend

- Approximate Project Boundary
- Existing Trail
- Sample Point
- Field Delineated Wetland
- Mosaic Beech/Maple Complex
- Aerially Identified Perennial Stream
- Aerially Identified Intermittent Stream
- Aerially Identified Stream Area
- ~ DNR 24k Hydrography
- ~ Perennial Stream
- - - Intermittent Stream
- ~ Waterbody

Figure No.

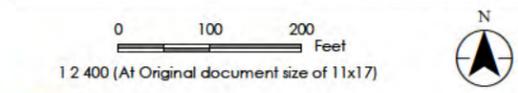
4

Title

Field Collected Data

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

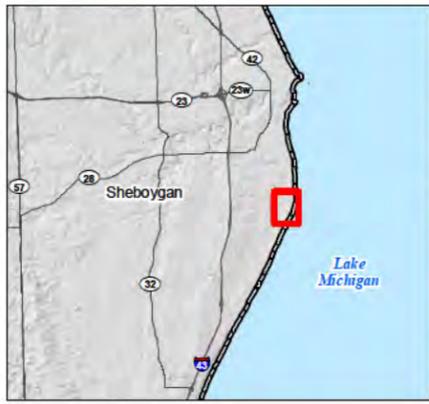
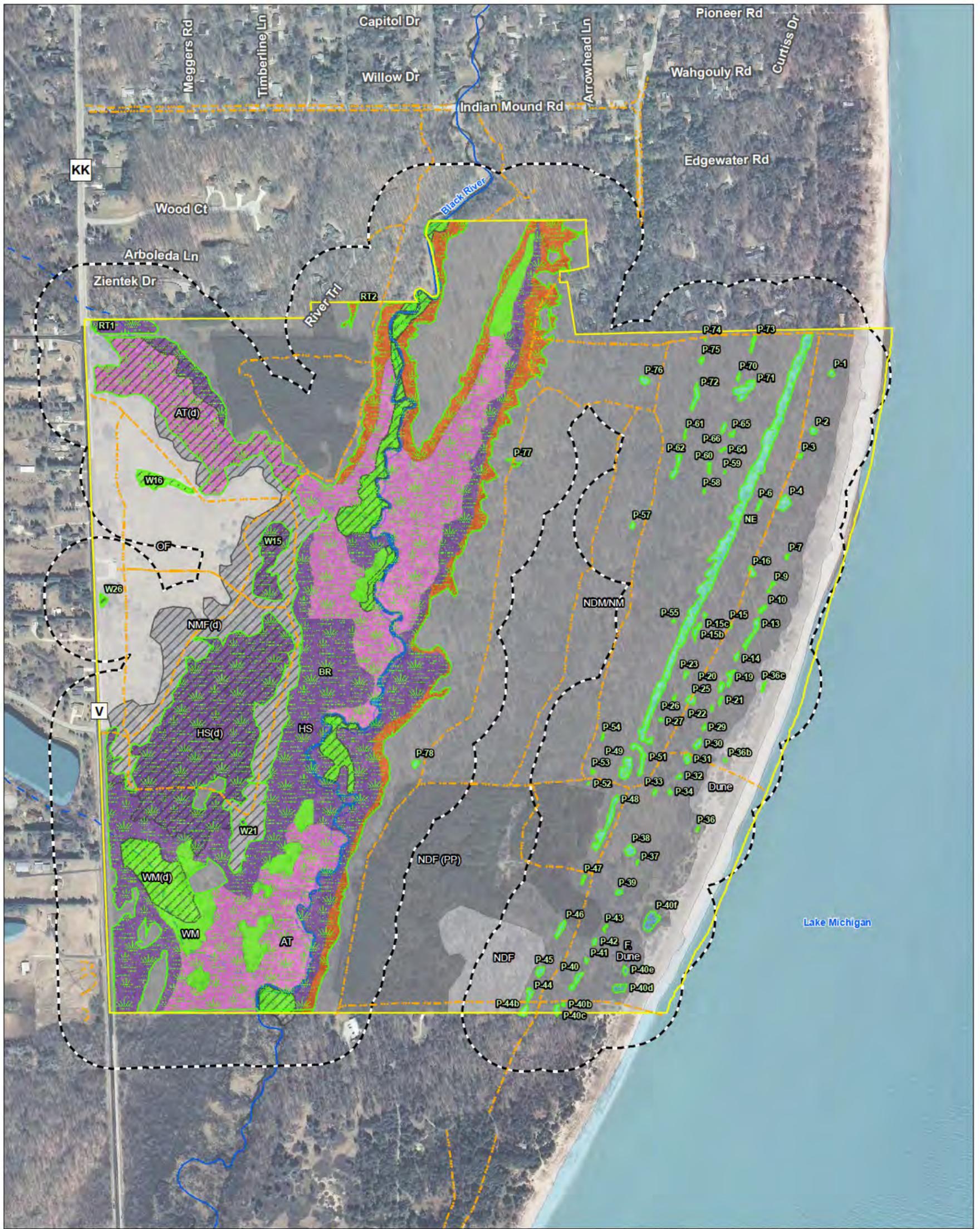
Project Location: T14N R23E S11; 14
 T of Wilson Sheboygan Co WI
 Prepared by MCP on 2014-11-17
 Technical Review by DG on 2014-12-15
 Independent Review by JG on 2015-03-19



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Kohler WDNR WDOT
 3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.





Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Excel WDNR WDOT
 3. Orthophotography: 2010 WROC

Legend

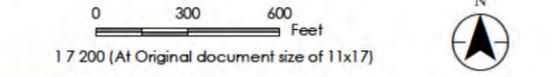
- Approximate Project Boundary
- Existing Trail
- Field Delineated Wetland
- 100m Wetland Buffer
- Botanical Community (total acres [degraded acres])
- AT - Alder Thicket (38.4ac [7.7ac degraded])
- HS - Hardwood Swamp (50.1ac [18.9ac degraded])
- HS/FS - Hardwood Swamp/Forested Seep (13.1ac)
- IW - Interdunal Wetland (0.3ac)
- OW - Open Water (2.9ac)
- SWC - Swale Wetland Complex (5.3ac)
- WM - Wet Meadow (13.8ac [8.1ac degraded])
- Degraded Area (d)*

- DNR 24k Hydrography
- ~ Perennial Stream
- - - Intermittent Stream
- Waterbody

Figure No. **5**
 Title **Wisconsin Wetland Rapid Assessment Area and 100-m Buffer**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11: 14 Prepared by MCP on 2014-11-06
 T of Wilson Sheboygan Co WI Technical Review by JS on 2014-11-06
 Independent Review by JG on 2015-03-19



Appendix B – WETS Analysis

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: July-September 19th

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|--------------|-------------------------------|
| 1st month prior: | Sept 1-19 | 1.73 (1.06) | 3.29 | 4.01 (2.48) |
| 2nd month prior: | August | 2.58 | 4.08 | 4.92 |
| 3rd month prior: | July | 2.3 | 3.19 | 3.76 |
| | | Sum = | 10.56 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|-----------|
| 1.29 | Normal | 2 | 3 | 6 |
| 2.72 | Normal | 2 | 2 | 4 |
| 1.64 | Dry | 1 | 1 | 1 |
| | | Sum = | Sum*** = | 11 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

_____ Dry

 X Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: July-September 22th

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|--------------|-------------------------------|
| 1st month prior: | Sept 1-22 | 1.73 (1.27) | 3.29 | 4.01 (2.94) |
| 2nd month prior: | August | 2.58 | 4.08 | 4.92 |
| 3rd month prior: | July | 2.3 | 3.19 | 3.76 |
| | | Sum = | 10.56 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|--------------------|
| 1.38 | Normal | 2 | 3 | 6 |
| 2.72 | Normal | 2 | 2 | 4 |
| 1.64 | Dry | 1 | 1 | 1 |
| | | Sum = | 5.74 | Sum*** = 11 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

_____ Dry

 X Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: July-September 29th

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|--------------|-------------------------------|
| 1st month prior: | Sept 1-29 | 1.73 (1.67) | 3.29 | 4.01 (3.78) |
| 2nd month prior: | August | 2.58 | 4.08 | 4.92 |
| 3rd month prior: | July | 2.3 | 3.19 | 3.76 |
| | | Sum = | 10.56 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|-------------------|
| 1.47 | Dry | 1 | 3 | 3 |
| 2.72 | Normal | 2 | 2 | 4 |
| 1.64 | Dry | 1 | 1 | 1 |
| | | Sum = | 5.83 | Sum*** = 8 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

 X Dry

 Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course
 Project Number: 193703078
 Period of interest: July-September
 Station: Sheboygan 7725
 County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|--------|-------------------------|--------------|----------------------------|
| 1st month prior: | Sept | 1.73 | 3.29 | 4.01 |
| 2nd month prior: | August | 2.58 | 4.08 | 4.92 |
| 3rd month prior: | July | 2.3 | 3.19 | 3.76 |
| | | Sum = | 10.56 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|--------------------|---------------------------|-------------------|--------------|-------------------|
| 1.47 | Dry | 1 | 3 | 3 |
| 2.72 | Normal | 2 | 2 | 4 |
| 1.64 | Dry | 1 | 1 | 1 |
| | | Sum = | 5.83 | Sum*** = 8 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: Wet
 X Dry
 Normal

**Condition value:

Dry = 1
 Normal = 2
 Wet = 3

***If sum is:

6 to 9 then period has been drier than normal
 10 to 14 then period has been normal
 15 to 18 then period has been wetter than normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: August-October 13th

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|-------------|-------------------------------|
| 1st month prior: | Oct 1-13 | 1.68 (0.70) | 2.51 | 3.00 (1.26) |
| 2nd month prior: | September | 1.73 | 3.29 | 4.01 |
| 3rd month prior: | August | 2.58 | 4.08 | 4.92 |
| | | Sum = | 9.88 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|-----------|
| 2.69 | Wet | 3 | 3 | 9 |
| 1.47 | Dry | 1 | 2 | 2 |
| 2.72 | Normal | 1 | 1 | 1 |
| | | Sum = | 6.88 | |
| | | | Sum*** = | 12 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

_____ Dry

 X Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: August-October 14th

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|-------------|-------------------------------|
| 1st month prior: | Oct 1-14 | 1.68 (0.76) | 2.51 | 3.00 (1.35) |
| 2nd month prior: | September | 1.73 | 3.29 | 4.01 |
| 3rd month prior: | August | 2.58 | 4.08 | 4.92 |
| | | Sum = | 9.88 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|-----------|
| 3.10 | Wet | 3 | 3 | 9 |
| 1.47 | Dry | 1 | 2 | 2 |
| 2.72 | Normal | 1 | 1 | 1 |
| | | Sum = | Sum*** = | 12 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

_____ Dry

 X Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: August-October 22nd

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|-------------|-------------------------------|
| 1st month prior: | Oct 1-22 | 1.68 (1.19) | 2.51 | 3.00 (2.13) |
| 2nd month prior: | September | 1.73 | 3.29 | 4.01 |
| 3rd month prior: | August | 2.58 | 4.08 | 4.92 |
| | | Sum = | 9.88 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|-----------|
| 3.29 | Wet | 3 | 3 | 9 |
| 1.47 | Dry | 1 | 2 | 2 |
| 2.72 | Normal | 1 | 1 | 1 |
| | | Sum = | Sum*** = | 12 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

_____ Dry
 X Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

WETS Analysis Worksheet

Project Name: Kohler Golf Course

Project Number: 193703078

Period of interest: August-October 23rd

Station: Sheboygan 7725

County: Sheboygan County

Long-term rainfall records (from WETS table)

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|------------------|-----------|----------------------------|-------------|-------------------------------|
| 1st month prior: | Oct 1-23 | 1.68 (1.25) | 2.51 | 3.00 (2.22) |
| 2nd month prior: | September | 1.73 | 3.29 | 4.01 |
| 3rd month prior: | August | 2.58 | 4.08 | 4.92 |
| | | Sum = | 9.88 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|-----------------------|------------------------------|----------------------|-----------------|-----------|
| 3.42 | Wet | 3 | 3 | 9 |
| 1.47 | Dry | 1 | 2 | 2 |
| 2.72 | Normal | 1 | 1 | 1 |
| | | Sum = | Sum*** = | 12 |

*Normal precipitation with 30% to 70% probability of occurrence

Determination: _____ Wet

**Condition value:

Dry = 1

Normal = 2

Wet = 3

***If sum is:

6 to 9 then period has been drier than normal

10 to 14 then period has been normal

15 to 18 then period has been wetter than normal

_____ Dry
 X Normal

Precipitation data source: <http://agacis.rcc-acis.org/55117/wets/results>

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Appendix C – Wetland Determination Data Forms

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: 8u |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: upland deciduous forest | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in an upland deciduous forest. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >28 (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >28 (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | A | 10YR | 3/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 9 | 10 | E | 10YR | 6/1 | 95 | 7.5YR | 3/4 | 5 | C | M | loamy sand |
| 10 | 28 | B | 7.5YR | 3/4 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years. Matrix not depleted, presence of E horizon.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **8u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 40 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 30 | Y | FACU |
| 3. | <i>Hamamelis virginiana</i> | 10 | N | FACU |
| 4. | <i>Carpinus caroliniana</i> | 10 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Carpinus caroliniana</i> | 5 | Y | FAC |
| 3. | <i>LONICERA TATARICA</i> | 2 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 17 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Aster macrophyllus</i> | 25 | Y | UPL |
| 2. | <i>Carex pensylvanica</i> | 20 | Y | UPL |
| 3. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 4. | <i>Caulophyllum thalictroides</i> | 10 | N | UPL |
| 5. | <i>Trillium cernuum</i> | 5 | N | FAC |
| 6. | <i>ARCTIUM MINUS</i> | 2 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 72 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. <u>94</u> | x 4 = | <u>376</u> |
| UPL spp. <u>55</u> | x 5 = | <u>275</u> |
| Total <u>179</u> (A) | | <u>731</u> (B) |
| Prevalence Index = B/A = | | <u>4.084</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 8W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Forested Wetland |
| | | | Section: 14 |
| | | | Township: 14N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | A | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 6 | 16 | B | 10YR | 6/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 16 | 20 | B | 10YR | 6/1 | 80 | 10YR | 4/4 | 20 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **W1** Sample Point **8W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 15 | Y | FACU |
| 3. | <i>Hamamelis virginiana</i> | 5 | N | FACU |
| 4. | <i>Prunus serotina</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 52 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 40 | Y | FACW |
| 2. | <i>Onoclea sensibilis</i> | 30 | Y | FACW |
| 3. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 4. | <i>Symplocarpus foetidus</i> | 5 | N | OBL |
| 5. | <i>Lycopus virginicus</i> | 2 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 82 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>7</u> | x 1 = | <u>7</u> |
| FACW spp. | <u>105</u> | x 2 = | <u>210</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>42</u> | x 4 = | <u>168</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>154</u> (A) | <u>385</u> (B) |
| Prevalence Index = B/A = | | <u>2.500</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: 9/10w |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Forested Wetland |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Township: 14N |
| | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

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|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 16 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 12 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|---------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 8 | A | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy muck |
| 8 | 20 | B | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the S1 and A11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **9/10w**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | <i>Betula alleghaniensis</i> | 25 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Onoclea sensibilis</i> | 30 | Y | FACW |
| 2. | <i>Symplocarpus foetidus</i> | 20 | Y | OBL |
| 3. | <i>Impatiens capensis</i> | 15 | Y | FACW |
| 4. | <i>Dryopteris intermedia</i> | 5 | N | FAC |
| 5. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 75 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. <u>95</u> | x 2 = | <u>190</u> |
| FAC spp. <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>145</u> (A) | | <u>300</u> (B) |
| Prevalence Index = B/A = | | <u>2.069</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: 9u |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: upland deciduous forest | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in an upland deciduous forest. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >28 (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >28 (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | A | 10YR | 3/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 9 | 10 | E | 10YR | 6/1 | 95 | 7.5YR | 3/4 | 5 | C | M | loamy sand |
| 10 | 28 | B | 7.5YR | 3/4 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years. Depleted matrix not present, low chroma due to presence of E horizon**

Project/Site: **Kohler Golf Course** Wetland ID: **W1** Sample Point **9u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 3. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Caulophyllum thalictroides</i> | 25 | Y | UPL |
| 2. | <i>Solidago gigantea</i> | 20 | Y | FACW |
| 3. | <i>Aster macrophyllus</i> | 15 | N | UPL |
| 4. | <i>Acer saccharum</i> | 5 | N | FACU |
| 5. | <i>Viola palmata</i> | 5 | N | FACU |
| 6. | <i>Galium boreale</i> | 5 | N | FAC |
| 7. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 2 | N | FAC |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 77 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>25</u> | x 2 = | <u>50</u> |
| FAC spp. | <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. | <u>40</u> | x 4 = | <u>160</u> |
| UPL spp. | <u>40</u> | x 5 = | <u>200</u> |
| Total | | <u>112</u> (A) | <u>431</u> (B) |
| Prevalence Index = B/A = | | <u>3.848</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|-----------------------|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Investigator #2: Everett Grosskopf | | State: Wisconsin |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | | Wetland ID: 10B |
| Landform: Terrace | | Local Relief: Convex | | Sample Point: 10BU |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A | Community ID: Mesic forest |
| Datum: N/A | | Section: 14 | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Range: 23 Dir: E | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are normal circumstances present? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a mesic forest. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 5 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | sandy loam |
| 5 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **10B**

Sample Point **10BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Ulmus americana</i> | 20 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 30 | Y | FACU |
| 3. | <i>Carpinus caroliniana</i> | 10 | N | FAC |
| 4. | <i>Acer rubrum</i> | 10 | N | FAC |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carpinus caroliniana</i> | 5 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 85 | Y | UPL |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 3. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 4. | <i>Ulmus americana</i> | 2 | N | FACW |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 94 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>24</u> | x 2 = | <u>48</u> |
| FAC spp. <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. <u>85</u> | x 5 = | <u>425</u> |
| Total <u>169</u> (A) | | 688 (B) |
| Prevalence Index = B/A = | | <u>4.071</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 10B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: 10BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Community ID: Hardwood swamp |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 11 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky loam | |
| 11 | 18 | 2 | 10YR | 4/1 | 88 | 10YR | 5/6 | 12 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **10B**

Sample Point **10BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 60 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 60 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 2 | N | FACW |
| 2. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 3. | <i>Iris virginica</i> | 5 | Y | OBL |
| 4. | <i>Carex stricta</i> | 10 | Y | OBL |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 22 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>77</u> | x 2 = | <u>154</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>92</u> (A) | | <u>169</u> (B) |
| Prevalence Index = B/A = | | <u>1.837</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|---------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: 10C |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: 10CW |
| | | Longitude: N/A | | Community ID: Wet meadow |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 1 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 15 | 1 | 10YR 2/1 | 95 | 10YR | 4/6 | 5 | C | M | silt loam |
| 15 | 18 | 2 | 10YR 3/2 | 90 | 10YR | 5/6 | 10 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the F6 Indicator described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **10C**

Sample Point **10CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----|----|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|----|----|------|
| 1. | <i>Symplocarpus foetidus</i> | 2 | N | OBL |
| 2. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 3. | <i>Carex stricta</i> | 30 | Y | OBL |
| 4. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 42 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|----|----|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|---------------|
| OBL spp. <u>32</u> | x 1 = | <u>32</u> |
| FACW spp. <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>47</u> (A) | | <u>62</u> (B) |
| Prevalence Index = B/A = | | <u>1.319</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 12B | Sample Point: 12BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a mesic forest. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 8 | 20 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 20 | 24 | 3 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **12B**

Sample Point **12BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 20 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW |
| 3. | <i>Quercus rubra</i> | 40 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 5 | N | FACU |
| 2. | <i>Prunus virginiana</i> | 5 | N | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 4. | <i>Carpinus caroliniana</i> | 15 | Y | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 80 | Y | UPL |
| 2. | <i>BERBERIS THUNBERGII</i> | 15 | N | FACU |
| 3. | <i>Carex blanda</i> | 2 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 97 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>17</u> | x 3 = | <u>51</u> |
| FACU spp. <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. <u>80</u> | x 5 = | <u>400</u> |
| Total <u>212</u> (A) | | <u>891</u> (B) |
| Prevalence Index = B/A = | | <u>4.203</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: 12B |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: 12BW |
| Longitude: N/A | | Datum: N/A | | Community ID: Hardwood swamp |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **the sample plot is located in a hardwood swamp. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Seasonal flow 6 feet to south of point, with 10" of water depth and 5 feet wide.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 2 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR 3/1 | 95 | 10YR | 4/6 | 5 | C | M | silt loam |
| 10 | 20 | 2 | 10YR 6/2 | 95 | 10YR | 5/6 | 5 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, F3 and F6 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **12B**

Sample Point **12BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 30 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 3. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 4. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 5. | <i>Iris virginica</i> | 5 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 65 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>85</u> | x 2 = | <u>170</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>25</u> | x 4 = | <u>100</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>115</u> (A) | | <u>275</u> (B) |
| Prevalence Index = B/A = | | <u>2.391</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 12C | Sample Point: 12CU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in a mesic forest. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 6 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 15 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 15 | 20 | 4 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **12C**

Sample Point **12CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer rubrum</i> | 20 | Y | FAC |
| 2. | <i>Prunus serotina</i> | 10 | N | FACU |
| 3. | <i>Quercus rubra</i> | 60 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 30 | Y | FACU |
| 2. | <i>Crataegus crus-galli</i> | 5 | N | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Carex pensylvanica</i> | 30 | Y | UPL |
| 3. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 4. | <i>POA PRATENSIS</i> | 30 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 82 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. <u>150</u> | x 4 = | <u>600</u> |
| UPL spp. <u>30</u> | x 5 = | <u>150</u> |
| Total <u>207</u> (A) | | <u>829</u> (B) |
| Prevalence Index = B/A = | | <u>4.005</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 12D | Sample Point: 12DU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in mesic forest. Recent rain even of ~1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 7 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | sandy loam |
| 7 | 17 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| 17 | 24 | 4 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **12D**

Sample Point **12DU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer rubrum</i> | 60 | Y | FAC |
| 2. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 30 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 40 | Y | FACU |
| 2. | <i>PHALARIS ARUNDINACEA</i> | 5 | N | FACW |
| 3. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 4. | <i>Carex pensylvanica</i> | 30 | Y | UPL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 80 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>20</u> | x 2 = | <u>40</u> |
| FAC spp. | <u>60</u> | x 3 = | <u>180</u> |
| FACU spp. | <u>70</u> | x 4 = | <u>280</u> |
| UPL spp. | <u>30</u> | x 5 = | <u>150</u> |
| Total | | <u>180</u> (A) | <u>650</u> (B) |
| Prevalence Index = B/A = | | <u>3.611</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E1K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 12D | Sample Point: 12DW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Wet meadow |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in a wet meadow. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|----|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | silt loam |
| 4 | 9 | 2 | 10YR | 3/2 | 95 | 10YR | 4/1 | 5 | C | M | silt loam |
| 9 | 18 | 3 | 10YR | 4/4 | 88 | 10YR | 5/6 | 12 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the F6 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **12D**

Sample Point **12DW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carpinus caroliniana</i> | 2 | N | FAC |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 60 | Y | FACW |
| 2. | <i>Eutrochium maculatum</i> | 5 | N | OBL |
| 3. | <i>CIRSIIUM ARVENSE</i> | 2 | N | FACU |
| 4. | <i>Thelypteris palustris</i> | 10 | N | FACW |
| 5. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 6. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 7. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 86 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>85</u> | x 2 = | <u>170</u> |
| FAC spp. <u>4</u> | x 3 = | <u>12</u> |
| FACU spp. <u>4</u> | x 4 = | <u>16</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>98</u> (A) | | <u>203</u> (B) |
| Prevalence Index = B/A = | | <u>2.071</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: 13/14u |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: upland deciduous forest | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in an upland deciduous forest. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

- | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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| | |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 36 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 31 (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 8 | A | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand |
| 8 | 18 | B | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 18 | 24 | B | 10YR | 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| 24 | 36 | B | 10YR | 6/1 | 80 | 10YR | 5/6 | 20 | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

- | | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **13/14u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 30 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 3. | <i>Crataegus mollis</i> | 10 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Rubus allegheniensis</i> | 30 | Y | FACU |
| 2. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 30 | Y | FAC |
| 3. | <i>Prunus serotina</i> | 20 | Y | FACU |
| 4. | <i>ROSA MULTIFLORA</i> | 20 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 100 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>POA PRATENSIS</i> | 30 | Y | UPL |
| 2. | <i>GLECHOMA HEDERACEA</i> | 20 | Y | UPL |
| 3. | <i>TARAXACUM OFFICINALE</i> | 10 | Y | UPL |
| 4. | <i>TRIFOLIUM REPENS</i> | 10 | Y | FACU |
| 5. | <i>PLANTAGO MAJOR</i> | 10 | Y | FACU |
| 6. | <i>Viola palmata</i> | 5 | N | FACU |
| 7. | <i>Galium boreale</i> | 5 | N | FAC |
| 8. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 9. | <i>Fragaria virginiana</i> | 5 | N | FACU |
| 10. | <i>HESPERIS MATRONALIS</i> | 5 | N | FACU |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 18.2% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------------------|--------------|------------------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>35</u> | x 2 = | <u>70</u> |
| FAC spp. | <u>45</u> | x 3 = | <u>135</u> |
| FACU spp. | <u>135</u> | x 4 = | <u>540</u> |
| UPL spp. | <u>60</u> | x 5 = | <u>300</u> |
| Total | <u>275</u> (A) | | <u>1045</u> (B) |
| Prevalence Index = B/A = | | | <u>3.800</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Adrian muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: W1 | Sample Point: 13W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Community ID: Forested Wetland |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

- | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 8 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: surface (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Adrian muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 24 | Oa | 10YR | 2/1 | 100 | -- | -- | -- | -- | organic muck | |
| 24 | 28 | B | 10YR | 6/1 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **13W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 10 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 3. | <i>ROSA MULTIFLORA</i> | 5 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex stricta</i> | 35 | Y | OBL |
| 2. | <i>Onoclea sensibilis</i> | 20 | Y | FACW |
| 3. | <i>Solidago gigantea</i> | 15 | N | FACW |
| 4. | <i>Symplocarpus foetidus</i> | 15 | N | OBL |
| 5. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 5 | N | FAC |
| 6. | <i>Dryopteris intermedia</i> | 5 | N | FAC |
| 7. | <i>Symphytichum pilosum</i> | 5 | N | FACU |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 100 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>50</u> | x 1 = | <u>50</u> |
| FACW spp. | <u>55</u> | x 2 = | <u>110</u> |
| FAC spp. | <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. | <u>20</u> | x 4 = | <u>80</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>135</u> (A) | <u>270</u> (B) |
| Prevalence Index = B/A = | | <u>2.000</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 14 | Sample Point: 14BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: old fallow field | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a fallow field. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 8 to 10 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 13 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 13 | 20 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **14**

Sample Point **14BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago canadensis</i> | 2 | N | FACU |
| 2. | <i>POA PRATENSIS</i> | 80 | Y | FACU |
| 3. | <i>Solidago gigantea</i> | 20 | N | FACW |
| 4. | <i>Asclepias syriaca</i> | 2 | N | UPL |
| 5. | <i>Spiraea alba</i> | 2 | N | FACW |
| 6. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 108 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>22</u> | x 2 = | <u>44</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>82</u> | x 4 = | <u>328</u> |
| UPL spp. <u>2</u> | x 5 = | <u>10</u> |
| Total <u>108</u> (A) | | <u>388</u> (B) |
| Prevalence Index = B/A = | | <u>3.593</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Everett Grosskopf | Soil Unit: Houghton muck | State: Wisconsin |
| Landform: Depression | NWI/WWI Classification: T3K | Wetland ID: 14B |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: 14BW |
| Latitude: N/A | Longitude: N/A | Community ID: Hardwood swamp |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | silt loam | |
| 8 | 11 | 2 | 10YR | 3/2 | 97 | 10YR | 4/6 | 3 | C | M | silt loam |
| 11 | 18 | 3 | 10YR | 4/1 | 88 | 10YR | 5/6 | 12 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **14B**

Sample Point **14BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 25 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 70 | Y | FACW |
| 2. | <i>ROSA MULTIFLORA</i> | 10 | N | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 5 | N | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 3. | <i>Thelypteris palustris</i> | 10 | Y | FACW |
| 4. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 5. | <i>Carex blanda</i> | 10 | Y | FAC |
| 6. | <i>Impatiens capensis</i> | 5 | N | FACW |
| 7. | <i>Geum canadense</i> | 10 | Y | FAC |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>115</u> | x 2 = | <u>230</u> |
| FAC spp. | <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. | <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>165</u> (A) | <u>410</u> (B) |
| Prevalence Index = B/A = | | <u>2.485</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: 14W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Community ID: Forested Wetland | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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| | |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 28 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 23 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Hydrology identified as naturally problematic due to seasonal occurrence of saturation/inundation.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | A | 10YR | 3/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 6 | 30 | B | 10YR | 5/2 | 80 | 10YR | 5/6 | 20 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S5 indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **14W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 65 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 65 | | |
| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
| 1. | <i>ROSA MULTIFLORA</i> | 20 | Y | FACU |
| 2. | <i>Alnus incana</i> | 15 | Y | FACW |
| 3. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 4. | <i>RHAMNUS CATHARTICA</i> | 5 | N | FAC |
| 5. | <i>Cornus alba</i> | 5 | N | FACW |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 60 | | |
| Herb Stratum (Plot size: 2 meter radius) | | | | |
| 1. | <i>Laportea canadensis</i> | 25 | Y | FACW |
| 2. | <i>Spiraea alba</i> | 10 | Y | FACW |
| 3. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 4. | <i>Acer rubrum</i> | 2 | N | FAC |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 42 | | |
| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
| 1. | <i>Vitis riparia</i> | 10 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>125</u> | x 2 = | <u>250</u> |
| FAC spp. <u>17</u> | x 3 = | <u>51</u> |
| FACU spp. <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>177</u> (A) | | <u>441</u> (B) |
| Prevalence Index = B/A = | | <u>2.492</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 15 | Sample Point: 15BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: upland shrub | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in upland shrubs. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 9 | 20 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **15**

Sample Point **15BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Rubus idaeus var. strigosus</i> | 15 | Y | FAC |
| 2. | LONICERA X BELLA | 10 | N | FACU |
| 3. | <i>Rubus allegheniensis</i> | 35 | Y | FACU |
| 4. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 62 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 0 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>55</u> | x 4 = | <u>220</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>72</u> (A) | | <u>269</u> (B) |
| Prevalence Index = B/A = | | <u>3.736</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 15 | Sample Point: 15BW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Hardwood swamp | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland? Yes No**

Remarks: Sample plot is located in a hardwood swamp. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >34 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 34 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 95 | 10YR | 4/6 | 5 | C | M | sandy loam |
| 8 | 24 | 2 | 10YR | 5/3 | 85 | 10YR | 4/6 | 15 | C | M | loamy sand |
| 24 | 34 | 3 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, F6, and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **15** Sample Point **15BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer rubrum</i> | 15 | Y | FAC |
| 2. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 3. | <i>Prunus serotina</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 25 | Y | FACW |
| 2. | <i>ROSA MULTIFLORA</i> | 10 | Y | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 4. | <i>LONICERA X BELLA</i> | 10 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 47 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 10 | Y | FACW |
| 2. | <i>Rubus idaeus var. strigosus</i> | 3 | N | FAC |
| 3. | <i>Symphotrichum ontarionis</i> | 5 | Y | FAC |
| 4. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 5. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 22 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>57</u> | x 2 = | <u>114</u> |
| FAC spp. | <u>23</u> | x 3 = | <u>69</u> |
| FACU spp. | <u>29</u> | x 4 = | <u>116</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>109</u> (A) | <u>299</u> (B) |
| Prevalence Index = B/A = | | <u>2.743</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 15 | Sample Point: 15CU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a mesic forest. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 10 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand |
| 10 | 17 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 17 | 24 | 3 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **15** Sample Point **15CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 70 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 2 | N | FACU |
| 2. | <i>Prunus serotina</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 12 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 15 | Y | UPL |
| 2. | <i>Geum canadense</i> | 5 | Y | FAC |
| 3. | <i>Rubus allegheniensis</i> | 5 | Y | FACU |
| 4. | <i>Rubus occidentalis</i> | 5 | Y | UPL |
| 5. | <i>ROSA MULTIFLORA</i> | 5 | Y | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 35 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 14.3% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>92</u> | x 4 = | <u>368</u> |
| UPL spp. | <u>20</u> | x 5 = | <u>100</u> |
| Total | | <u>122</u> (A) | <u>493</u> (B) |
| Prevalence Index = B/A = | | <u>4.041</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 15 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 15CW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: Hardwood swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a hardwood swamp. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Wetland hydrology is seasonally and denoted as naturally problematic given the time of year of the delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loam | |
| 9 | 15 | 2 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 15 | 24 | 3 | 10YR | 5/3 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **15** Sample Point **15CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 45 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 5 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 50 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 15 | Y | FACU |
| 2. | LONICERA X BELLA | 20 | Y | FACU |
| 3. | ROSA MULTIFLORA | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 2. | <i>Rubus idaeus var. strigosus</i> | 10 | Y | FAC |
| 3. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 17 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>50</u> | x 2 = | <u>100</u> |
| FAC spp. | <u>12</u> | x 3 = | <u>36</u> |
| FACU spp. | <u>45</u> | x 4 = | <u>180</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>107</u> (A) | <u>316</u> (B) |
| Prevalence Index = B/A = | | <u>2.953</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Adrian muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 15 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 15DW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Hardwood swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a hardwood swamp. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Adrian muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky loam | |
| 8 | 20 | 2 | 10YR | 5/1 | 97 | 10YR | 4/6 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **15** Sample Point **15DW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | <i>Prunus serotina</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 2. | <i>Alnus incana</i> | 50 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 52 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 2. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 3. | <i>PHALARIS ARUNDINACEA</i> | 10 | Y | FACW |
| 4. | <i>Carex stricta</i> | 10 | Y | OBL |
| 5. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 29 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>10</u> | x 1 = | <u>10</u> |
| FACW spp. | <u>87</u> | x 2 = | <u>174</u> |
| FAC spp. | <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. | <u>12</u> | x 4 = | <u>48</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>111</u> (A) | <u>238</u> (B) |
| Prevalence Index = B/A = | | <u>2.144</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 15u |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: upland deciduous forest |
| | | | Section: 14 |
| | | | Township: 14N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 7 | A | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 7 | 20 | B | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand | |
| 20 | 24 | Bt | 10YR | 4/4 | 80 | 10YR | 5/6 | 20 | C | M | sandy clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **15u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 25 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 3. | <i>PYRUS MALUS</i> | 10 | N | UPL |
| 4. | <i>Hamamelis virginiana</i> | 15 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 30 | Y | FACU |
| 2. | <i>Alnus incana</i> | 15 | Y | FACW |
| 3. | <i>BERBERIS THUNBERGII</i> | 10 | N | FACU |
| 4. | <i>LONICERA TATARICA</i> | 10 | N | FACU |
| 5. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 5 | N | FAC |
| 6. | <i>Rubus allegheniensis</i> | 5 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 30 | Y | FAC |
| 2. | <i>ROSA MULTIFLORA</i> | 15 | Y | UPL |
| 3. | <i>Viola palmata</i> | 10 | N | UPL |
| 4. | <i>Trillium cernuum</i> | 5 | N | FAC |
| 5. | <i>Galium boreale</i> | 5 | N | FAC |
| 6. | <i>Geum aleppicum</i> | 2 | N | FAC |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 67 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------------------|--------------|-----------------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>30</u> | x 2 = | <u>60</u> |
| FAC spp. | <u>47</u> | x 3 = | <u>141</u> |
| FACU spp. | <u>95</u> | x 4 = | <u>380</u> |
| UPL spp. | <u>35</u> | x 5 = | <u>175</u> |
| Total | <u>207</u> (A) | | <u>756</u> (B) |
| Prevalence Index = B/A = | | | <u>3.652</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | Investigator #1: Chuck Herrmann | County: Sheboygan |
| Investigator #2: Mark Remington | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Depression | NWI/WWI Classification: T3K | Wetland ID: W1 |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: 15W |
| Latitude: N/A | Longitude: N/A | Community ID: Forested Wetland |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Hydrology identified as natural problematic due to seasonal occurrence of inundation/saturation.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | A | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | sandy loam |
| 8 | 16 | B | 10YR | 5/2 | 90 | 10YR | 5/4 | 10 | C | M | loamy sand |
| 16 | 24 | Bt | 7.5YR | 4/4 | 85 | 7.5YR | 5/8 | 15 | C | M | sandy clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **15W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | <i>Acer rubrum</i> | 10 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 50 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 40 | Y | FACW |
| 2. | <i>ROSA MULTIFLORA</i> | 15 | Y | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 4. | <i>Prunus serotina</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Laportea canadensis</i> | 55 | Y | FACW |
| 2. | <i>PHALARIS ARUNDINACEA</i> | 30 | Y | FACW |
| 3. | <i>Geum aleppicum</i> | 5 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------------------|--------------|-----------------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>165</u> | x 2 = | <u>330</u> |
| FAC spp. | <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. | <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | <u>215</u> (A) | | <u>515</u> (B) |
| Prevalence Index = B/A = | | | <u>2.395</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 16B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 16BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Fallow field |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in on a toe slope of an upland fallow field swale. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam |
| 5 | 10 | 2 | 10YR | 3/3 | 100 | -- | -- | -- | -- | sandy loam |
| 10 | 18 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **16B**

Sample Point **16BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | BROMUS INERMIS | 100 | Y | UPL |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 100 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>100</u> | x 5 = | <u>500</u> |
| Total <u>100</u> (A) | | <u>500</u> (B) |
| Prevalence Index = B/A = | | <u>5.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | Investigator #1: Chuck Herrmann | County: Sheboygan |
| Investigator #2: Mark Remington | Soil Unit: Oakville loamy fine sand | State: Wisconsin |
| Landform: Depression | NWI/WWI Classification: N/A | Wetland ID: W2 |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: 16W |
| Latitude: N/A | Longitude: N/A | Community ID: Wet Meadow |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >30 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >30 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. Hydrology identified as naturally problematic due to seasonal occurrence of inundation/saturation.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | A | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 8 | 18 | B | 10YR | 5/2 | 90 | 10YR | 5/4 | 10 | C | M | loamy sand |
| 18 | 30 | B | 10YR | 5/4 | 85 | 10YR | 5/6 | 15 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W2**

Sample Point **16W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | |
|-------------------------------------------|--------------|----------|-------------|
| | Species Name | % Cover | Ind. Status |
| 1. | - | - | - |
| 2. | - | - | - |
| 3. | - | - | - |
| 4. | - | - | - |
| 5. | - | - | - |
| 6. | - | - | - |
| 7. | - | - | - |
| 8. | - | - | - |
| 9. | - | - | - |
| 10. | - | - | - |
| Total Cover = | | 0 | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | |
|---------------------------------------------------|--------------|----------|-------------|
| | Species Name | % Cover | Ind. Status |
| 1. | - | - | - |
| 2. | - | - | - |
| 3. | - | - | - |
| 4. | - | - | - |
| 5. | - | - | - |
| 6. | - | - | - |
| 7. | - | - | - |
| 8. | - | - | - |
| 9. | - | - | - |
| 10. | - | - | - |
| Total Cover = | | 0 | |

| Herb Stratum (Plot size: 2 meter radius) | | | |
|------------------------------------------|-----------------------------|------------|---------------|
| | Species Name | % Cover | Ind. Status |
| 1. | PHALARIS ARUNDINACEA | 100 | Y FACW |
| 2. | - | - | - |
| 3. | - | - | - |
| 4. | - | - | - |
| 5. | - | - | - |
| 6. | - | - | - |
| 7. | - | - | - |
| 8. | - | - | - |
| 9. | - | - | - |
| 10. | - | - | - |
| 11. | - | - | - |
| 12. | - | - | - |
| 13. | - | - | - |
| 14. | - | - | - |
| 15. | - | - | - |
| Total Cover = | | 100 | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | |
|-------------------------------------------------|--------------|----------|-------------|
| | Species Name | % Cover | Ind. Status |
| 1. | - | - | - |
| 2. | - | - | - |
| 3. | - | - | - |
| 4. | - | - | - |
| 5. | - | - | - |
| Total Cover = | | 0 | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>100</u> | x 2 = | <u>200</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>100</u> (A) | | <u>200</u> (B) |
| Prevalence Index = B/A = | | <u>2.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | Investigator #1: Chuck Herrmann | County: Sheboygan |
| Investigator #2: Mark Remington | Soil Unit: Oakville loamy fine sand | State: Wisconsin |
| Landform: Flat hill top | NWI/WWI Classification: N/A | Wetland ID: W2 |
| Slope (%): 0-2 | Local Relief: Convex | Sample Point: 17/18u |
| Latitude: N/A | Longitude: N/A | Community ID: upland fallow field/trail |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland fallow field and a mowed trail that have been filled. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 30 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 26 (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----|---------------|-----|------|---------------------------------|----|-------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | | | |
| 0 | 16 | 1 | 7.5YR | 5/4 | 91 | 10YR | 5/6 | 6 | C | M | clay loam fill material |
| -- | -- | -- | -- | -- | -- | 10YR | 5/1 | 3 | D | M | -- |
| 16 | 22 | Ab | 10YR | 3/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 22 | 30 | B | 10YR | 4/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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| <p>Restrictive Layer (If Observed) Type: N/A Depth: N/A</p> | <p>Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years. 16" of clay fill was placed to stabilize a wet spot in the trail.**

¹Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **Kohler Golf Course** Wetland ID: **W2** Sample Point **17/18u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | PLANTAGO MAJOR | 30 | Y | FAC |
| 2. | TRIFOLIUM REPENS | 20 | N | UPL |
| 3. | POA PRATENSIS | 30 | Y | FACU |
| 4. | DAUCUS CAROTA | 15 | N | UPL |
| 5. | TARAXACUM OFFICINALE | 5 | N | FACU |
| 6. | PHLEUM PRATENSE | 5 | N | FACU |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. | <u>40</u> | x 4 = | <u>160</u> |
| UPL spp. | <u>35</u> | x 5 = | <u>175</u> |
| Total | | <u>105</u> (A) | <u>425</u> (B) |
| Prevalence Index = B/A = | | <u>4.048</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Additional Remarks:

Vegetation appears to be mowed on a regular basis as trail maintenance.

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Palms muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Side slope | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 17B | Sample Point: 17BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a mesic forest. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Palms muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 12 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 12 | 14 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | sandy loam |
| 14 | 24 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **17B**

Sample Point **17BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 30 | Y | FACU |
| 2. | <i>Acer rubrum</i> | 10 | Y | FAC |
| 3. | <i>MALUS PUMILA</i> | 5 | N | UPL |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 25 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 3. | <i>Prunus virginiana</i> | 10 | N | FACU |
| 4. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 5. | <i>ROSA MULTIFLORA</i> | 5 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 60 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 2. | <i>PHALARIS ARUNDINACEA</i> | 5 | N | FACW |
| 3. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 4. | <i>BERBERIS THUNBERGII</i> | 50 | Y | FACU |
| 5. | <i>Geum canadense</i> | 10 | N | FAC |
| 6. | <i>HESPERIS MATRONALIS</i> | 2 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 82 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>35</u> | x 3 = | <u>105</u> |
| FACU spp. <u>137</u> | x 4 = | <u>548</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>187</u> (A) | | <u>698</u> (B) |
| Prevalence Index = B/A = | | <u>3.733</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Palms muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 17B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 17BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Hardwood swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **The sample plot is located in a hardwood swamp. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 7 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Palms muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-------|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | N | 2.5/0 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 9 | 12 | 2 | N | 2.5/0 | 97 | 10YR | 4/6 | 3 | C | M | mucky silt loam |
| 12 | 18 | 3 | 10YR | 4/2 | 90 | 10YR | 5/6 | 10 | C | M | mucky silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the F1 and A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **17B**

Sample Point **17BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 50 | Y | FACW |
| 2. | <i>Thuja occidentalis</i> | 5 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

Total Cover = **55**

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 17 | | |

Total Cover = **17**

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 2. | <i>Carex stricta</i> | 50 | Y | OBL |
| 3. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 4. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 5. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 6. | <i>Geum canadense</i> | 5 | N | FAC |
| 7. | <i>Equisetum arvense</i> | 2 | N | FAC |
| 8. | <i>Laportea canadensis</i> | 5 | N | FACW |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 81 | | |

Total Cover = **81**

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Total Cover = **0**

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. 50 | x 1 = | 50 |
| FACW spp. 85 | x 2 = | 170 |
| FAC spp. 7 | x 3 = | 21 |
| FACU spp. 11 | x 4 = | 44 |
| UPL spp. 0 | x 5 = | 0 |
| Total 153 | (A) | 285 (B) |
| Prevalence Index = B/A = | | 1.863 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 17C | Sample Point: 17CU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a mesic forest. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 8 | 24 | 2 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **17C**

Sample Point **17CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Populus tremuloides</i> | 40 | Y | FAC |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 5 | Y | FACU |
| 2. | <i>Picea glauca</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Populus tremuloides</i> | 15 | N | FAC |
| 2. | <i>POA PRATENSIS</i> | 70 | Y | FACU |
| 3. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 4. | <i>Symphotrichum ontarionis</i> | 5 | N | FAC |
| 5. | <i>BROMUS ERECTUS</i> | 20 | N | UPL |
| 6. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 7. | <i>Euthamia graminifolia</i> | 2 | N | FAC |
| 8. | <i>Asclepias syriaca</i> | 5 | N | UPL |
| 9. | <i>DAUCUS CAROTA</i> | 2 | N | UPL |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 126 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>64</u> | x 3 = | <u>192</u> |
| FACU spp. <u>80</u> | x 4 = | <u>320</u> |
| UPL spp. <u>27</u> | x 5 = | <u>135</u> |
| Total <u>176</u> (A) | | <u>657</u> (B) |
| Prevalence Index = B/A = | | <u>3.733</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Alluvial land, wet | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: 17C |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: 17CW |
| | | Longitude: N/A | | Community ID: Hardwood swamp |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Alluvial land, wet** Series Drainage Class: **#N/A**

Taxonomy (Subgroup): **#N/A**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 12 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 12 | 20 | 2 | 10YR | 5/2 | 88 | 10YR | 5/2 | 12 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, A12 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **17C**

Sample Point **17CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |
| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 30 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |
| Herb Stratum (Plot size: 2 meter radius) | | | | |
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex stricta</i> | 10 | Y | OBL |
| 2. | PHALARIS ARUNDINACEA | 2 | N | FACW |
| 3. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 4. | CIRSIUM ARVENSE | 2 | N | FACU |
| 5. | <i>Thalictrum dasycarpum</i> | 2 | N | FACW |
| 6. | BERBERIS THUNBERGII | 2 | N | FACU |
| 7. | <i>Geum canadense</i> | 5 | Y | FAC |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 28 | | |
| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>10</u> | x 1 = | <u>10</u> |
| FACW spp. | <u>79</u> | x 2 = | <u>158</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>4</u> | x 4 = | <u>16</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>98</u> (A) | <u>199</u> (B) |
| Prevalence Index = B/A = | | <u>2.031</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Alluvial land, wet | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 17D | Sample Point: 17DU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in upland forest. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Alluvial land, wet** Series Drainage Class: **#N/A**

Taxonomy (Subgroup): **#N/A**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 6 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 20 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **17D**

Sample Point **17DU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 15 | N | FACU |
| 2. | <i>Picea glauca</i> | 80 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 95 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 2. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 3. | <i>Equisetum arvense</i> | 2 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 44 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>102</u> | x 4 = | <u>408</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |
| Total <u>144</u> (A) | | <u>614</u> (B) |
| Prevalence Index = B/A = | | <u>4.264</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Dune land | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: 17D |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: 17DW |
| | | Longitude: N/A | | Community ID: Alder thicket |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an alder thicket. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Seasonal waterway 25 feet south east of point, water 6" deep and 3 feet wide.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-------|----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 20 | 1 | N | 2.5/0 | 98 | 10YR | 4/4 | 2 | C | M | mucky silt loam |
| 20 | 24 | 2 | 10YR | 5/2 | 85 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | 10YR | 4/1 | 5 | D | M | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the F6 Indicator described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **17D**

Sample Point **17DW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>19</u> | x 1 = | <u>19</u> |
| FACW spp. | <u>97</u> | x 2 = | <u>194</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>32</u> | x 4 = | <u>128</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>148</u> (A) | <u>341</u> (B) |
| Prevalence Index = B/A = | | <u>2.304</u> | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 70 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Carex stricta</i> | 15 | Y | OBL |
| 3. | <i>HESPERIS MATRONALIS</i> | 2 | N | FACU |
| 4. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 5. | <i>Persicaria pensylvanica</i> | 2 | N | FACW |
| 6. | <i>Lycopus uniflorus</i> | 2 | N | OBL |
| 7. | <i>Symplocarpus foetidus</i> | 2 | N | OBL |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 48 | | |

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: W2 | Sample Point: 17W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Wet Meadow | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <p>Field Observations:</p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 12 (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 8 (in.) | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Mottles | | | Texture (e.g. clay, sand, loam) | | | |
|-----------|--------------|---------|---------------|-----|---------------|------|------|---------------------------------|----------|----|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | | Location | | |
| 0 | 8 | A | 10YR | 2/1 | 95 | 10YR | 5/6 | 5 | C | M | sandy loam |
| 8 | 20 | B | 10YR | 5/2 | 90 | 10YR | 4/6 | 10 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W2**

Sample Point **17W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 60 | Y | FACW |
| 2. | <i>Symphotrichum lanceolatum</i> | 25 | Y | FACW |
| 3. | <i>Eutrochium maculatum</i> | 10 | N | OBL |
| 4. | <i>Onoclea sensibilis</i> | 10 | N | FACW |
| 5. | <i>Toxicodendron radicans</i> | 10 | N | FAC |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 115 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>10</u> | x 1 = | <u>10</u> |
| FACW spp. <u>95</u> | x 2 = | <u>190</u> |
| FAC spp. <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>115</u> (A) | | <u>230</u> (B) |
| Prevalence Index = B/A = | | <u>2.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | Investigator #1: Chuck Herrmann | County: Sheboygan |
| Investigator #2: Mark Remington | Local Relief: Concave | State: Wisconsin |
| Soil Unit: Oakville loamy fine sand | NWI/WWI Classification: T3K | Wetland ID: W1 |
| Landform: Depression | Latitude: N/A | Sample Point: 18W |
| Slope (%): 0-2 | Longitude: N/A | Community ID: Forested Wetland |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | A | 10YR | 2/1 | 95 | 10YR | 5/6 | 5 | C | M | sandy loam |
| 9 | 20 | B | 7.5YR | 4/1 | 90 | 10YR | 5/6 | 10 | C | M | loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **18W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Salix discolor</i> | 10 | Y | FACW |
| 2. | <i>SALIX X FRAGILIS</i> | 5 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>AGROSTIS GIGANTEA</i> | 40 | Y | FACW |
| 2. | <i>Symphotrichum lanceolatum</i> | 20 | Y | FACW |
| 3. | <i>PHALARIS ARUNDINACEA</i> | 15 | N | FACW |
| 4. | <i>Eupatorium perfoliatum</i> | 10 | N | FACW |
| 5. | <i>Lycopus virginicus</i> | 5 | N | OBL |
| 6. | <i>Euphorbia maculata</i> | 5 | N | FACU |
| 7. | <i>Juncus effusus</i> | 5 | N | OBL |
| 8. | <i>Onoclea sensibilis</i> | 5 | N | FACW |
| 9. | <i>POTENTILLA ARGENTEA</i> | 5 | N | FACU |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 110 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>10</u> | x 1 = | <u>10</u> |
| FACW spp. | <u>140</u> | x 2 = | <u>280</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>10</u> | x 4 = | <u>40</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>165</u> (A) | <u>345</u> (B) |
| Prevalence Index = B/A = | | <u>2.091</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 19/20u |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: upland deciduous forest |
| | | | Section: 14 |
| | | | Township: 14N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **One secondary indicator of hydrology not sufficient to meet hydrology criteria.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | A | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 8 | 18 | B | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand | |
| 18 | 30 | B | 10YR | 6/1 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **W1** Sample Point **19/20u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | <i>Prunus serotina</i> | 25 | Y | FACU |
| 3. | <i>Crataegus mollis</i> | 10 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 10 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Podophyllum peltatum</i> | 15 | Y | FAC |
| 2. | <i>Anemone thalictroides</i> | 10 | Y | FACU |
| 3. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 10 | Y | FACU |
| 4. | <i>Viola palmata</i> | 10 | Y | FACU |
| 5. | <i>Trillium grandiflorum</i> | 5 | N | UPL |
| 6. | <i>GLECHOMA HEDERACEA</i> | 5 | N | FACU |
| 7. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 60 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 8 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>40</u> | x 2 = | <u>80</u> |
| FAC spp. | <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. | <u>80</u> | x 4 = | <u>320</u> |
| UPL spp. | <u>5</u> | x 5 = | <u>25</u> |
| Total | | <u>150</u> (A) | <u>500</u> (B) |
| Prevalence Index = B/A = | | <u>3.333</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 19 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 19BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Hardwood swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a hardwood swamp. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 8 | 15 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 15 | 20 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **19**

Sample Point **19BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 10 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 7 | N | FACW |
| 3. | <i>Acer rubrum</i> | 7 | N | FAC |
| 4. | <i>Populus deltoides</i> | 30 | Y | FAC |
| 5. | <i>MALUS PUMILA</i> | 7 | N | UPL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 61 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 5 | N | FACU |
| 2. | <i>Prunus virginiana</i> | 30 | Y | FACU |
| 3. | <i>LONICERA X BELLA</i> | 10 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Rubus allegheniensis</i> | 5 | N | FACU |
| 3. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 4. | <i>Geum canadense</i> | 5 | N | FAC |
| 5. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 34 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>9</u> | x 2 = | <u>18</u> |
| FAC spp. <u>42</u> | x 3 = | <u>126</u> |
| FACU spp. <u>82</u> | x 4 = | <u>328</u> |
| UPL spp. <u>7</u> | x 5 = | <u>35</u> |
| Total <u>140</u> (A) | | 507 (B) |
| Prevalence Index = B/A = | | <u>3.621</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Toeslope | NWI/WWI Classification: T3K | Wetland ID: 19 |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: 19BW |
| Latitude: N/A | Longitude: N/A | Community ID: Hardwood swamp |
| Datum: N/A | Section: 14 | Range: 23 Dir: E |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a hardwood swamp. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgment. Based on landscape position, hydric soils present, hydrophytic vegetation present, and the timing of the delineation, this area appears it may be inundated or saturated for longer periods of time during the early growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >28 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >28 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks: The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 3/2 | 92 | 10YR | 4/6 | 8 | C | M | loam |
| 6 | 8 | 2 | 10YR | 5/1 | 92 | 10YR | 5/6 | 8 | C | M | loamy sand |
| 8 | 28 | 3 | 10YR | 5/3 | 92 | 10YR | 5/6 | 8 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | Indicators for Problematic Soils¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course** Wetland ID: **19** Sample Point **19BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Populus deltoides</i> | 20 | Y | FAC |
| 2. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 3. | <i>MALUS PUMILA</i> | 5 | N | UPL |
| 4. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 5. | <i>Acer rubrum</i> | 5 | N | FAC |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 10 | Y | FACU |
| 2. | <i>ROSA MULTIFLORA</i> | 15 | Y | FACU |
| 3. | <i>Prunus virginiana</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | N | FACU |
| 2. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 3. | <i>Rubus idaeus var. strigosus</i> | 25 | Y | FAC |
| 4. | <i>Geum canadense</i> | 15 | Y | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>20</u> | x 2 = | <u>40</u> |
| FAC spp. | <u>65</u> | x 3 = | <u>195</u> |
| FACU spp. | <u>60</u> | x 4 = | <u>240</u> |
| UPL spp. | <u>5</u> | x 5 = | <u>25</u> |
| Total | | <u>150</u> (A) | <u>500</u> (B) |
| Prevalence Index = B/A = | | <u>3.333</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/13/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 19W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Forested Wetland |
| | | | Section: 14 |
| | | | Township: 14N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 13 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|---------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 8 | A | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand |
| 8 | 16 | B | 10YR | 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **19W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 65 | Y | FACW |
| 2. | <i>Prunus serotina</i> | 10 | N | FACU |
| 3. | <i>Acer rubrum</i> | 5 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 15 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Laportea canadensis</i> | 30 | Y | FACW |
| 2. | <i>Onoclea sensibilis</i> | 25 | Y | FACW |
| 3. | <i>Iris versicolor</i> | 15 | N | OBL |
| 4. | <i>Geranium maculatum</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 80 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>120</u> | x 2 = | <u>240</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>40</u> | x 4 = | <u>160</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>180</u> (A) | | <u>430</u> (B) |
| Prevalence Index = B/A = | | <u>2.389</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: W1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: 20W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Forested Wetland | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <p>Field Observations:</p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 8 (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 4 (in.) | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|---------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 8 | A | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sandy loam |
| 8 | 18 | B | 10YR | 7/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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| <p>NRCS Hydic Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F1 Indicator described in the NRCS publication Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **20W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 45 | Y | FACW |
| 2. | <i>Prunus serotina</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 30 | Y | FACW |
| 2. | <i>ROSA MULTIFLORA</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 15 | Y | FACW |
| 2. | <i>Laportea canadensis</i> | 15 | Y | FACW |
| 3. | <i>Symplocarpus foetidus</i> | 10 | Y | OBL |
| 4. | <i>Dryopteris intermedia</i> | 10 | Y | FAC |
| 5. | <i>Geum aleppicum</i> | 5 | N | FAC |
| 6. | <i>Iris versicolor</i> | 5 | N | OBL |
| 7. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 5 | N | FAC |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 65 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>105</u> | x 2 = | <u>210</u> |
| FAC spp. <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. <u>20</u> | x 4 = | <u>80</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>160</u> (A) | | <u>365</u> (B) |
| Prevalence Index = B/A = | | <u>2.281</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 21B | Sample Point: 21BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in on an upland ridge. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | 3/2 | % | Color (Moist) | % | Type | Location | | |
| 0 | 7 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 7 | 9 | 2 | 10YR | 3/2 | 97 | 10YR | 4/6 | 3 | C | M | sandy loam |
| 9 | 16 | 3 | 10YR | 4/4 | 98 | 10YR | 4/6 | 2 | C | M | loamy sand |
| 16 | 24 | 4 | 10YR | 5/3 | 95 | 10YR | 5/6 | 5 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **21B**

Sample Point **21BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 40 | Y | FACU |
| 2. | <i>Quercus macrocarpa</i> | 10 | N | FACU |
| 3. | <i>Prunus serotina</i> | 40 | Y | FACU |
| 4. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 92 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 10 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 3. | <i>Prunus virginiana</i> | 2 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 27 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 50 | Y | FACU |
| 2. | <i>Carex blanda</i> | 2 | N | FAC |
| 3. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 57 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>167</u> | x 4 = | <u>668</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>176</u> (A) | | 693 (B) |
| Prevalence Index = B/A = | | <u>3.938</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Adrian muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 21B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 21BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Hardwood Swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **The sample plot is located in a hardwood swamp. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Adrian muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------------|
| | | | Color (Moist) | 2/1 | % | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sandy loam | |
| 5 | 9 | 2 | 10YR | 2/1 | 95 | 10YR | 5/6 | 5 | C | M | mucky sandy loam |
| 9 | 18 | 3 | 10YR | 4/1 | 85 | 10YR | 5/6 | 15 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, F1, F3 and F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **21B**

Sample Point **21BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 60 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 40 | Y | FACW |
| 2. | <i>LONICERA X BELLA</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Geum canadense</i> | 10 | Y | FAC |
| 2. | <i>Solidago gigantea</i> | 15 | Y | FACW |
| 3. | <i>Thalictrum dasycarpum</i> | 10 | Y | FACW |
| 4. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 5. | <i>Cornus alba</i> | 5 | N | FACW |
| 6. | <i>Thelypteris palustris</i> | 2 | N | FACW |
| 7. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 8. | <i>Galamagrostis canadensis</i> | 2 | N | OBL |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 54 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>7</u> | x 1 = | <u>7</u> |
| FACW spp. <u>132</u> | x 2 = | <u>264</u> |
| FAC spp. <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. <u>40</u> | x 4 = | <u>160</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>189</u> (A) | | <u>461</u> (B) |
| Prevalence Index = B/A = | | <u>2.439</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 21C | Sample Point: 21CU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in on an upland ridge. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|----|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 7 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | sandy loam |
| 7 | 9 | 2 | 10YR | 3/2 | 97 | 10YR | 4/6 | 3 | C | M | sandy loam |
| 9 | 24 | 3 | 10YR | 4/4 | 98 | 10YR | 4/6 | 2 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **21C**

Sample Point **21CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 30 | Y | FACU |
| 2. | <i>Crataegus crus-galli</i> | 5 | N | FAC |
| 3. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 40 | Y | FACU |
| 2. | <i>LONICERA X BELLA</i> | 10 | N | FACU |
| 3. | <i>Quercus macrocarpa</i> | 10 | N | FACU |
| 4. | <i>Prunus virginiana</i> | 5 | N | FACU |
| 5. | <i>Cornus alternifolia</i> | 2 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 67 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 50 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 50 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>147</u> | x 4 = | <u>588</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>162</u> (A) | | <u>623</u> (B) |
| Prevalence Index = B/A = | | <u>3.846</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: 21C |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: 21CW |
| Longitude: N/A | | Datum: N/A | | Community ID: Hardwood Swamp |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp. Recent rain even of 1.65 in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 2/1 | 97 | 10YR | 4/6 | 3 | C | M | loam |
| 10 | 18 | 2 | 10YR | 5/2 | 88 | 10YR | 5/6 | 12 | C | M | loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, F3, and F6 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **21C**

Sample Point **21CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 60 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 60 | | |
| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | <i>Crataegus crus-galli</i> | 2 | N | FAC |
| 3. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 32 | | |
| Herb Stratum (Plot size: 2 meter radius) | | | | |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Iris virginica</i> | 5 | Y | OBL |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 25 | | |
| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. | <u>80</u> | x 2 = | <u>160</u> |
| FAC spp. | <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. | <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>117</u> (A) | <u>291</u> (B) |
| Prevalence Index = B/A = | | <u>2.487</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 21D | Sample Point: 21DU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in on an upland ridge. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 7 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 7 | 16 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 16 | 24 | 3 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **21D**

Sample Point **21DU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 15 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 10 | N | FACU |
| 3. | <i>Quercus rubra</i> | 50 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 10 | Y | FACU |
| 2. | <i>Prunus virginiana</i> | 5 | N | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 30 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 40 | Y | FACU |
| 2. | <i>LONICERA X BELLA</i> | 5 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 45 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>165</u> | x 4 = | <u>660</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>165</u> (A) | | <u>660</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|---------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/14/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: 21D |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: 21DW |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonal flooded basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a seasonally flooded basin. Recent rain even of 1.65 inches in last 24 hours. WETS analysis determined that the antecedent precipitation conditions were normal. 2.78 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 2 | 18 | 2 | 10YR | 5/3 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the S11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **21D**

Sample Point **21DW**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---------------|---------------------|-----------|---|------|
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 15 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---------------|------------------------------------|-----------|---|------|
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>PHALARIS ARUNDINACEA</i> | 5 | N | FACW |
| 3. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 4. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 32 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>25</u> | x 2 = | <u>50</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>20</u> | x 4 = | <u>80</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>47</u> (A) | | <u>136</u> (B) |
| Prevalence Index = B/A = | | <u>2.894</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 22 | Sample Point: 22BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in mesic forest. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 9 | 18 | 2 | 10YR | 4/3 | 92 | 10YR | 4/6 | 8 | C | M | loamy sand |
| 18 | 30 | 3 | 10YR | 4/3 | 100 | -- | -- | -- | -- | -- | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **22** Sample Point **22BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 40 | Y | FACU |
| 2. | <i>Betula papyrifera</i> | 10 | N | FACU |
| 3. | <i>Quercus rubra</i> | 5 | N | FACU |
| 4. | <i>Populus deltoides</i> | 10 | N | FAC |
| 5. | <i>Acer saccharum</i> | 10 | N | FACU |
| 6. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 85 | Y | FACU |
| 2. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 3. | <i>Crataegus crus-galli</i> | 10 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 97 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 0 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. | <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. | <u>152</u> | x 4 = | <u>608</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>187</u> (A) | <u>698</u> (B) |
| Prevalence Index = B/A = | | <u>3.733</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 25 | Sample Point: 25BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Mesic forest |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in mesic forest. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Stunted or Stressed Plants <input type="checkbox"/> D1 - D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | sandy loam |
| 8 | 18 | 2 | 10YR | 5/6 | 90 | 7.5YR | 4/6 | 10 | C | M | sandy loam |
| 18 | 26 | 3 | 10YR | 6/4 | 100 | -- | -- | -- | -- | -- | sandy clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **25** Sample Point **25BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 25 | Y | FACU |
| 2. | <i>MALUS PUMILA</i> | 15 | N | UPL |
| 3. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 4. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 60 | Y | FACU |
| 2. | <i>Prunus virginiana</i> | 5 | N | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 67 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 2. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 3. | <i>Rubus idaeus var. strigosus</i> | 10 | Y | FAC |
| 4. | <i>Geum canadense</i> | 20 | Y | FAC |
| 5. | <i>Arisaema triphyllum</i> | 2 | N | FAC |
| 6. | <i>Fragaria virginiana</i> | 5 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 44 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

| Remarks: | | | | |
|---------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. | | | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>27</u> | x 2 = | <u>54</u> |
| FAC spp. | <u>34</u> | x 3 = | <u>102</u> |
| FACU spp. | <u>115</u> | x 4 = | <u>460</u> |
| UPL spp. | <u>15</u> | x 5 = | <u>75</u> |
| Total | | <u>191</u> (A) | <u>691</u> (B) |
| Prevalence Index = B/A = | | <u>3.618</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Side slope | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 25BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Hardwood swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a hardwood swamp. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | silt loam | |
| 8 | 18 | 2 | 10YR | 4/2 | 85 | 10YR | 5/6 | 15 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **25**

Sample Point **25BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 5 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 3. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 12 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>SOLANUM DULCAMARA</i> | 5 | N | FAC |
| 2. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 3. | <i>Carex stricta</i> | 5 | N | OBL |
| 4. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 5. | <i>Lycopus uniflorus</i> | 2 | N | OBL |
| 6. | <i>Onoclea sensibilis</i> | 2 | N | FACW |
| 7. | <i>Carex emoryi</i> | 80 | Y | OBL |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 101 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>87</u> | x 1 = | <u>87</u> |
| FACW spp. <u>39</u> | x 2 = | <u>78</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>12</u> | x 4 = | <u>48</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>143</u> (A) | | <u>228</u> (B) |
| Prevalence Index = B/A = | | <u>1.594</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 25CU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Mesic forest |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in mesic forest. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 10 | 14 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | sandy loam | |
| 14 | 20 | 3 | 10YR | 4/4 | 92 | 10YR | 5/6 | 8 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **25** Sample Point **25CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 20 | Y | FACU |
| 2. | <i>Quercus macrocarpa</i> | 10 | Y | FACU |
| 3. | <i>Crataegus crus-galli</i> | 5 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROSA MULTIFLORA</i> | 10 | Y | FACU |
| 2. | <i>Rubus idaeus var. strigosus</i> | 5 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 2. | <i>HESPERIS MATRONALIS</i> | 5 | N | FACU |
| 3. | <i>Carex pensylvanica</i> | 10 | Y | UPL |
| 4. | <i>Rubus idaeus var. strigosus</i> | 10 | Y | FAC |
| 5. | <i>BERBERIS THUNBERGII</i> | 7 | Y | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 34 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. | <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. | <u>52</u> | x 4 = | <u>208</u> |
| UPL spp. | <u>10</u> | x 5 = | <u>50</u> |
| Total | | <u>84</u> (A) | <u>322</u> (B) |
| Prevalence Index = B/A = | | <u>3.833</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Hebron sandy loam | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 25DU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Fallow field |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a fallow field. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Hebron sandy loam** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Oxyaquic Hapludalfs**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 7 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 7 | 20 | 2 | 10YR | 4/6 | 100 | -- | -- | -- | -- | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **25**

Sample Point **25DU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>POA PRATENSIS</i> | 85 | Y | FACU |
| 2. | <i>Solidago canadensis</i> | 5 | N | FACU |
| 3. | <i>Equisetum arvense</i> | 2 | N | FAC |
| 4. | <i>Symphytichum ontarionis</i> | 2 | N | FAC |
| 5. | <i>DAUCUS CAROTA</i> | 2 | N | UPL |
| 6. | <i>Fragaria virginiana</i> | 5 | N | FACU |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 101 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>4</u> | x 3 = | <u>12</u> |
| FACU spp. <u>95</u> | x 4 = | <u>380</u> |
| UPL spp. <u>2</u> | x 5 = | <u>10</u> |
| Total <u>101</u> (A) | | <u>402</u> (B) |
| Prevalence Index = B/A = | | <u>3.980</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Hebron sandy loam | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 25DW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: Alder thicket |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in an alder thicket. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Hebron sandy loam** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Oxyaquic Hapludalfs**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | 10YR | 3/2 | 94 | 10YR | 4/6 | 6 | C | M | sandy loam |
| 9 | 14 | 2 | 10YR | 3/3 | 95 | 10YR | 5/6 | 5 | C | M | sandy loam |
| 14 | 20 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the F6 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **25** Sample Point **25DW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 70 | Y | FACW |
| 2. | <i>LONICERA X BELLA</i> | 5 | N | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 85 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | <i>LONICERA X BELLA</i> | 10 | Y | FACU |
| 3. | <i>RHAMNUS CATHARTICA</i> | 5 | Y | FAC |
| 4. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 25 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>85</u> | x 2 = | <u>170</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>20</u> | x 4 = | <u>80</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>110</u> (A) | <u>265</u> (B) |
| Prevalence Index = B/A = | | <u>2.409</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Hebron sandy loam | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: 25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: 25EW <small>Shrub-carr component within hardwood swamp</small> |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: 14 |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in a shrub-carr component within a hardwood swamp. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 28 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Hebron sandy loam** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Oxyaquic Hapludalfs**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 95 | 10YR | 4/6 | 5 | C | M | sandy loam |
| 8 | 12 | 2 | 10YR | 4/2 | 92 | 10YR | 4/6 | 8 | C | M | sandy loam |
| 12 | 17 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | -- | loamy sand |
| 17 | 24 | 4 | 10YR | 4/3 | 92 | 10YR | 4/2 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | 10YR | 5/4 | 5 | C | M | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, F6, and F3 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **25**

Sample Point **25EW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>MALUS PUMILA</i> | 5 | Y | UPL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 15 | Y | FACU |
| 2. | <i>Cornus alba</i> | 30 | Y | FACW |
| 3. | <i>ROSA MULTIFLORA</i> | 5 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 50 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 20 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 3. | <i>Solidago canadensis</i> | 5 | N | FACU |
| 4. | <i>Solidago gigantea</i> | 10 | Y | FACW |
| 5. | <i>RHAMNUS CATHARTICA</i> | 2 | N | FAC |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 42 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>60</u> | x 2 = | <u>120</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>97</u> (A) | | <u>271</u> (B) |
| Prevalence Index = B/A = | | <u>2.794</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: 25 | Sample Point: 25EW2 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Hardwood swamp | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in an hardwood swamp. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 2 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 4 | 7 | 2 | 10YR | 3/2 | 97 | 10YR | 4/6 | 3 | C | M | sandy loam |
| 7 | 20 | 3 | 10YR | 4/2 | 88 | 10YR | 5/6 | 12 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **25** Sample Point **25EW2**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Populus deltoides</i> | 40 | Y | FAC |
| 2. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 3. | <i>Prunus serotina</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 90 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 15 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 105 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 0 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>55</u> | x 2 = | <u>110</u> |
| FAC spp. | <u>40</u> | x 3 = | <u>120</u> |
| FACU spp. | <u>95</u> | x 4 = | <u>380</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>190</u> (A) | <u>610</u> (B) |
| Prevalence Index = B/A = | | <u>3.211</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | Investigator #1: Chuck Herrmann | County: Sheboygan |
| Investigator #2: Mark Remington | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Side slope | NWI/WWI Classification: T3K | Wetland ID: W1 |
| Slope (%): 2-6 | Local Relief: Convex | Sample Point: 25u |
| Latitude: N/A | Longitude: N/A | Community ID: upland deciduous forest |
| Datum: N/A | Section: 14 | Township: 14N |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 28 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 23 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **Presence of one secondary hydrology indicator not sufficient to meet hydrology criteria.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C - Concentration, D - Depletion, RM - Reduced Matrix, CS - Covered/Coated Sand Grains, Location: PL - Pore Lining, M - Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | | |
| 0 | 7 | A | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 7 | 24 | B | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand | |
| 24 | 26 | B | 7.5YR | 4/4 | 94 | 10YR | 5/6 | 3 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | 10YR | 6/1 | 3 | D | M | -- |
| 26 | 30 | B | 10YR | 5/2 | 80 | 10YR | 5/6 | 20 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **25u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 45 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 3. | <i>Prunus serotina</i> | 15 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 25 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 20 | Y | FAC |
| 2. | <i>Viola palmata</i> | 10 | Y | FACU |
| 3. | <i>ROSA MULTIFLORA</i> | 5 | N | FACU |
| 4. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 5. | <i>Trillium cemuum</i> | 5 | N | FAC |
| 6. | <i>Thalictrum thalictroides</i> | 2 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 47 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>20</u> | x 2 = | <u>40</u> |
| FAC spp. <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. <u>122</u> | x 4 = | <u>488</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>167</u> (A) | | <u>603</u> (B) |
| Prevalence Index = B/A = | | <u>3.611</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | Investigator #1: Chuck Herrmann | County: Sheboygan |
| Investigator #2: Mark Remington | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Depression | NWI/WWI Classification: T3K | Wetland ID: W1 |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: 25W |
| Latitude: N/A | Longitude: N/A | Community ID: Forested Wetland |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a forested wetland. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input checked="" type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | A | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 6 | 16 | B | 10YR | 5/2 | 80 | 10YR | 5/6 | 20 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S6 indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **25W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 85 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 15 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 3. | <i>Cornus alba</i> | 5 | N | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Laportea canadensis</i> | 35 | Y | FACW |
| 2. | <i>Symplocarpus foetidus</i> | 15 | Y | OBL |
| 3. | <i>Rubus pubescens</i> | 15 | Y | FACW |
| 4. | <i>Lycopus virginicus</i> | 5 | N | OBL |
| 5. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 6. | <i>Thalictrum thalictroides</i> | 5 | N | FACU |
| 7. | <i>ROSA MULTIFLORA</i> | 2 | N | FACU |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 82 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. <u>145</u> | x 2 = | <u>290</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>32</u> | x 4 = | <u>128</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>197</u> (A) | | <u>438</u> (B) |
| Prevalence Index = B/A = | | <u>2.223</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/13/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Mark Remington | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Side slope | NWI/WWI Classification: T3K | Wetland ID: 26 |
| Slope (%): 2-6 | Local Relief: Linear | Sample Point: 26BU |
| Latitude: N/A | Longitude: N/A | Community ID: Mesic forest |
| Datum: N/A | Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a mesic forest. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Although hydrophytic vegetation is present at the sample plot, the lack of hydric soils and wetland hydrology indicate the sample plot is located in an upland mesic forest.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 2 to 3 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 8 | 18 | 2 | 10YR | 5/6 | 97 | 10YR | 4/6 | 3 | C | M | loamy sand |
| 18 | 26 | 3 | 10YR | 3/4 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **26** Sample Point **26BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 20 | Y | FACU |
| 2. | <i>MALUS PUMILA</i> | 5 | N | UPL |
| 3. | <i>Ulmus americana</i> | 15 | Y | FACW |
| 4. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 2. | <i>ROSA MULTIFLORA</i> | 15 | Y | FACU |
| 3. | <i>Alnus incana</i> | 5 | N | FACW |
| 4. | <i>Prunus virginiana</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 27 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 10 | Y | FACW |
| 2. | <i>ROSA MULTIFLORA</i> | 2 | N | FACU |
| 3. | <i>PHALARIS ARUNDINACEA</i> | 2 | N | FACW |
| 4. | <i>Laportea canadensis</i> | 2 | N | FACW |
| 5. | <i>Geum canadense</i> | 10 | Y | FAC |
| 6. | <i>RHAMNUS CATHARTICA</i> | 2 | N | FAC |
| 7. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 8. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 9. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 10. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 39 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>51</u> | x 2 = | <u>102</u> |
| FAC spp. | <u>16</u> | x 3 = | <u>48</u> |
| FACU spp. | <u>49</u> | x 4 = | <u>196</u> |
| UPL spp. | <u>5</u> | x 5 = | <u>25</u> |
| Total | | <u>121</u> (A) | <u>371</u> (B) |
| Prevalence Index = B/A = | | <u>3.066</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 2-6 | Latitude: N/A | Longitude: N/A | Datum: N/A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | Wetland ID: W1 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Section: 14 | | | Community ID: upland swale |
| Township: 14N | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) |
| <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test | |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >36 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >36 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C - Concentration, D - Depletion, RM - Reduced Matrix, CS - Covered/Coated Sand Grains, Location: PL - Pore Lining, M - Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | A | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 8 | 24 | B | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand | |
| 24 | 36 | B | 10YR | 5/3 | 70 | 10YR | 5/6 | 30 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | Indicators for Problematic Soils¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **26u**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 40 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 20 | Y | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 5 | N | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Cornus alba</i> | 15 | Y | FACW |
| 2. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 10 | Y | FAC |
| 3. | <i>LONICERA TATARICA</i> | 10 | Y | FACU |
| 4. | <i>ROSA MULTIFLORA</i> | 5 | N | FACU |
| 5. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 42 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago canadensis</i> | 60 | Y | FACU |
| 2. | <i>Spiraea alba</i> | 30 | Y | FACU |
| 3. | <i>PLANTAGO MAJOR</i> | 10 | N | FACU |
| 4. | <i>TARAXACUM OFFICINALE</i> | 5 | N | FACU |
| 5. | <i>Oxalis stricta</i> | 5 | N | FACU |
| 6. | <i>DACTYLIS GLOMERATA</i> | 5 | N | FACU |
| 7. | <i>PHALARIS ARUNDINACEA</i> | 5 | N | FACW |
| 8. | <i>Onoclea sensibilis</i> | 2 | N | FACW |
| 9. | <i>RUMEX CRISPUS</i> | 2 | N | FAC |
| 10. | <i>MEDICAGO LUPULINA</i> | 2 | N | FACU |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 126 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>29</u> | x 2 = | <u>58</u> |
| FAC spp. | <u>12</u> | x 3 = | <u>36</u> |
| FACU spp. | <u>192</u> | x 4 = | <u>768</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>233</u> (A) | <u>862</u> (B) |
| Prevalence Index = B/A = | | <u>3.700</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703195 | Date: 08/14/14 |
| Applicant: Excel Engineering | | Investigator #1: Chuck Herrmann | Investigator #2: Mark Remington |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: W1 | Sample Point: 26W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: wet meadow | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >24 (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: >24 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. Hydrology identified as naturally problematic due to season inundation/saturation.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Mottles | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|---------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | A | 10YR | 2/1 | 100 | 10YR | 5/6 | 20 | C | M | loamy sand |
| 6 | 24 | B | 10YR | 4/2 | 80 | 10YR | 5/6 | 20 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | | |
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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> F1 - Loamy Muck Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **W1**

Sample Point **26W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 25 | Y | FACW |
| 2. | <i>Acer negundo</i> | 15 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 25 | Y | FACW |
| 2. | <i>Solidago gigantea</i> | 25 | Y | FACW |
| 3. | <i>Solidago canadensis</i> | 30 | Y | FACU |
| 4. | <i>Impatiens capensis</i> | 10 | N | FACW |
| 5. | <i>LYTHRUM SALICARIA</i> | 10 | N | OBL |
| 6. | <i>Euthamia graminifolia</i> | 10 | N | FAC |
| 7. | <i>Euphorbia maculata</i> | 5 | N | FACU |
| 8. | <i>Lycopus virginicus</i> | 2 | N | OBL |
| 9. | <i>Geum aleppicum</i> | 2 | N | FAC |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 119 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>12</u> | x 1 = | <u>12</u> |
| FACW spp. <u>85</u> | x 2 = | <u>170</u> |
| FAC spp. <u>27</u> | x 3 = | <u>81</u> |
| FACU spp. <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>159</u> (A) | | <u>403</u> (B) |
| Prevalence Index = B/A = | | <u>2.535</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Everett Grosskopf | Investigator #2: Everett Grosskopf | State: Wisconsin |
| Soil Unit: Granby loamy fine sand | NWI/WWI Classification: N/A | Wetland ID: BR2A |
| Landform: Side slope | Local Relief: Convex | Sample Point: BR2AU |
| Slope (%): 2-6 | Latitude: N/A Longitude: N/A Datum: N/A | Community ID: Pine plantation |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a pine plantation within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 14 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| 14 | 20 | 3 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR2A**

Sample Point **BR2AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus resinosa</i> | 60 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 10 | N | FACU |
| 4. | <i>Prunus serotina</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 95 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | <i>SORBUS AUCUPARIA</i> | 5 | Y | UPL |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 12 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>115</u> | x 4 = | <u>460</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>122</u> (A) | | <u>489</u> (B) |
| Prevalence Index = B/A = | | <u>4.008</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Toeslope | | Local Relief: Concave | | Wetland ID: BR2A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR2AW |
| Longitude: N/A | | Datum: N/A | | Community ID: Shrub-carr component within hardwood swamp |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a shrub-carr component within a hardwood swamp during the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | silt loam | |
| 8 | 14 | 2 | 10YR | 4/1 | 92 | 10YR | 5/6 | 8 | C | M | sandy loam |
| 14 | 20 | 3 | 10YR | 6/1 | 93 | 10YR | 5/6 | 7 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR2A**

Sample Point **BR2AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Corylus americana</i> | 10 | Y | FACU |
| 2. | <i>Alnus incana</i> | 10 | Y | FACW |
| 3. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 4. | <i>Crataegus crus-galli</i> | 5 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 3. | <i>Calamagrostis canadensis</i> | 5 | Y | OBL |
| 4. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 5. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 24 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>37</u> | x 2 = | <u>74</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>84</u> (A) | | <u>240</u> (B) |
| Prevalence Index = B/A = | | <u>2.857</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR3A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: BR3AU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland forest | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 7 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 7 | 20 | 2 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR3A**

Sample Point **BR3AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 20 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 50 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = | 90 | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|---------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Crataegus crus-galli</i> | 5 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = | 15 | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|---------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 3. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| | | Total Cover = | 52 | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| | | Total Cover = | 0 | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 14.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>112</u> | x 4 = | <u>448</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |
| Total <u>157</u> (A) | | <u>663</u> (B) |
| Prevalence Index = B/A = | | <u>4.223</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Toeslope | | Local Relief: Concave | | Wetland ID: BR3A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR3AW |
| | | Longitude: N/A | | Community ID: Alder thicket |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an alder thicket within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|-----------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 10 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | silt loam | |
| 10 | 20 | 2 | 10YR | 4/1 | 92 | 10YR | 5/6 | 8 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR3A**

Sample Point **BR3AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | <i>Alnus incana</i> | 30 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Calamagrostis canadensis</i> | 5 | Y | OBL |
| 3. | <i>Carex stricta</i> | 5 | Y | OBL |
| 4. | <i>Urtica dioica</i> | 2 | N | FAC |
| 5. | <i>Iris virginica</i> | 5 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 27 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>60</u> | x 2 = | <u>120</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>25</u> | x 4 = | <u>100</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>102</u> (A) | | <u>241</u> (B) |
| Prevalence Index = B/A = | | <u>2.363</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR4A | Sample Point: BR4AU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C6 - Thin Muck Surface <input type="checkbox"/> C7 - Other (Explain in Remarks) <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 20 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR4A**

Sample Point **BR4AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Betula papyrifera</i> | 5 | N | FACU |
| 3. | <i>Prunus serotina</i> | 5 | N | FACU |
| 4. | <i>Fagus grandifolia</i> | 30 | Y | FACU |
| 5. | <i>Pinus strobus</i> | 10 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 60 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------------|----------------|
| <u>Total % Cover of:</u> | | <u>Multiply by:</u> | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>95</u> | x 4 = | <u>380</u> |
| UPL spp. | <u>60</u> | x 5 = | <u>300</u> |
| Total | | <u>155</u> (A) | <u>680</u> (B) |
| Prevalence Index = B/A = | | <u>4.387</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Toeslope | | Local Relief: Concave | | Wetland ID: BR4A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR4AW |
| Longitude: N/A | | Datum: N/A | | Community ID: Alder thicket |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an alder thicket within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | silt loam | |
| 5 | 12 | 2 | 10YR | 3/1 | 97 | 10YR | 4/6 | 3 | C | M | silt loam |
| 12 | 20 | 3 | 10YR | 5/2 | 92 | 10YR | 5/6 | 8 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F6 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR4A**

Sample Point **BR4AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 5 | Y | FACW |
| 2. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 3. | <i>Acer saccharum</i> | 2 | N | FACU |
| 4. | <i>Prunus serotina</i> | 5 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 22 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 17 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex lacustris</i> | 20 | Y | OBL |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | <i>Impatiens capensis</i> | 5 | N | FACW |
| 5. | <i>Calamagrostis canadensis</i> | 10 | Y | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 42 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. <u>37</u> | x 2 = | <u>74</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>14</u> | x 4 = | <u>56</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>81</u> (A) | | <u>160</u> (B) |
| Prevalence Index = B/A = | | <u>1.975</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Shoulder | | Local Relief: Convex | | Wetland ID: BR5A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR5AU |
| | | Longitude: N/A | | Community ID: Upland forest |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 5 | 14 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 14 | 24 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR5A**

Sample Point **BR5AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 35 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 15 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 80 | Y | UPL |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 92 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. <u>80</u> | x 5 = | <u>400</u> |
| Total <u>187</u> (A) | | <u>824</u> (B) |
| Prevalence Index = B/A = | | <u>4.406</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Toeslope | | Local Relief: Concave | | Wetland ID: BR5A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR5AW |
| | | Longitude: N/A | | Community ID: Alder thicket |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an alder thicket within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|----|-----------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 13 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | mucky silt loam | | |
| 13 | 20 | 2 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A12 and F1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **BR5A** Sample Point **BR5AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 5 | N | FACW |
| 2. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 30 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 10 | Y | FACW |
| 2. | <i>Symphyotrichum ontarionis</i> | 5 | N | FAC |
| 3. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 4. | <i>Carex lacustris</i> | 10 | Y | OBL |
| 5. | <i>Calamagrostis canadensis</i> | 10 | Y | OBL |
| 6. | <i>Carex stricta</i> | 5 | N | OBL |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 45 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. | <u>80</u> | x 2 = | <u>160</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>110</u> (A) | <u>200</u> (B) |
| Prevalence Index = B/A = | | <u>1.818</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Shoulder | | Local Relief: Convex | | Wetland ID: BR6A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR6AU |
| | | Longitude: N/A | | Community ID: Upland forest |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 9 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 9 | 24 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <p>Restrictive Layer (if Observed) Type: N/A Depth: N/A</p> | <p>Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR6A**

Sample Point **BR6AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | <i>Betula papyrifera</i> | 15 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopodium digitatum</i> | 20 | Y | UPL |
| 2. | <i>Carex pensylvanica</i> | 20 | Y | UPL |
| 3. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 4. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 60 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>100</u> | x 4 = | <u>400</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |
| Total <u>140</u> (A) | | <u>600</u> (B) |
| Prevalence Index = B/A = | | <u>4.286</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: BR6A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR6AW |
| Longitude: N/A | | Datum: N/A | | Community ID: Wet meadow/hardwood swamp |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow/hardwood swamp within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|-----------------|-----------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 14 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 14 | 22 | 2 | 10YR | 3/1 | 92 | 10YR | 4/4 | 8 | C | M | mucky silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot meets the F1 Indicator described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR6A**

Sample Point **BR6AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 5 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Alnus incana</i> | 10 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Ranunculus hispidus</i> | 20 | Y | FAC |
| 2. | <i>Lycopus uniflorus</i> | 5 | Y | OBL |
| 3. | <i>Iris virginica</i> | 5 | Y | OBL |
| 4. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 5. | <i>Thelypteris palustris</i> | 2 | N | FACW |
| 6. | <i>Carex canescens</i> | 5 | Y | OBL |
| 7. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 8. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 46 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>47</u> | x 2 = | <u>94</u> |
| FAC spp. <u>22</u> | x 3 = | <u>66</u> |
| FACU spp. <u>27</u> | x 4 = | <u>108</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>111</u> (A) | | <u>283</u> (B) |
| Prevalence Index = B/A = | | <u>2.550</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR8A | Sample Point: BR8AU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in an upland forest within the growing season. Small upland terrace within the mosaic wetland complex. Typical representation of upland in mosaic beech/maple wetland complex, south end of mosaic wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 7.5YR | 3/2 | 100 | -- | -- | -- | -- | loam with Duff layer |
| 3 | 6 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 24 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR8A**

Sample Point **BR8AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 30 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 25 | Y | FACU |
| 3. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 2. | <i>Pinus strobus</i> | 2 | N | FACU |
| 3. | <i>Lycopodium digitatum</i> | 25 | Y | UPL |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 29 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>99</u> | x 4 = | <u>396</u> |
| UPL spp. <u>25</u> | x 5 = | <u>125</u> |
| Total <u>124</u> (A) | | <u>521</u> (B) |
| Prevalence Index = B/A = | | <u>4.202</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|---------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Adrian muck | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: BR8A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR8AW |
| | | Longitude: N/A | | Community ID: Wet meadow |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located within a wet meadow within the growing season. Typical representation of wetland depression in mosaic beech/maple wetland complex, south end of mosaic wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Adrian muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 6 | 14 | 2 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | sandy loam |
| 14 | 24 | 3 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, F1 and F3 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR8A**

Sample Point **BR8AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer negundo</i> | 5 | Y | FAC |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex lacustris</i> | 10 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 10 | Y | OBL |
| 3. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 4. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 5. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 6. | <i>Symplocarpus foetidus</i> | 2 | N | OBL |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 31 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>22</u> | x 1 = | <u>22</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>22</u> | x 4 = | <u>88</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>56</u> (A) | | <u>141</u> (B) |
| Prevalence Index = B/A = | | <u>2.518</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Terrace | | Local Relief: Convex | | Wetland ID: BR9A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR9AU |
| Longitude: N/A | | Datum: N/A | | Community ID: Upland forest |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in an upland forest within the growing season. Small upland terrace within the mosaic wetland complex and is a typical representation of upland in mosaic beech/maple wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 7.5YR | 3/2 | 100 | -- | -- | -- | -- | loam with Duff layer | |
| 3 | 5 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | sandy loam | |
| 5 | 14 | 3 | 10YR | 5/4 | 92 | 10YR | 5/6 | 8 | C | M | loamy sand |
| 14 | 28 | 4 | 10YR | 5/3 | 88 | 10YR | 5/6 | 12 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks:

Project/Site: **Kohler Golf Course**

Wetland ID: **BR9A**

Sample Point **BR9AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 30 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 10 | N | FACU |
| 3. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 25 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 5 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>110</u> | x 4 = | <u>440</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>110</u> (A) | | <u>440</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

Sample point is located within an representative upland knoll within upland/wetland mosaic complex. Area is too small to delineate as separate upland community. Approximately 15% of mosaic complex comprised of upland knolls represented by this sample point.

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Adrian muck | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR9A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: BR9AW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Community ID: Wet meadow | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow within the growing season. Typical representation of wetland depression in mosaic wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Adrian muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 20 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | muck |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR9A**

Sample Point **BR9AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 5 | Y | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 10 | Y | FACW |
| 2. | <i>Thelypteris palustris</i> | 5 | Y | FACW |
| 3. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 4. | <i>Symplocarpus foetidus</i> | 2 | N | OBL |
| 5. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 6. | <i>Iris virginica</i> | 2 | N | OBL |
| 7. | <i>Geum canadense</i> | 2 | N | FAC |
| 8. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 9. | <i>Urtica dioica</i> | 2 | N | FAC |
| 10. | <i>Carex lacustris</i> | 5 | Y | OBL |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 37 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)
 Total Number of Dominant Species Across All Strata: 8 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>9</u> | x 1 = | <u>9</u> |
| FACW spp. | <u>50</u> | x 2 = | <u>100</u> |
| FAC spp. | <u>6</u> | x 3 = | <u>18</u> |
| FACU spp. | <u>12</u> | x 4 = | <u>48</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>77</u> (A) | <u>175</u> (B) |
| Prevalence Index = B/A = | | <u>2.273</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Investigator #2: Everett Grosskopf | | State: Wisconsin |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | | Wetland ID: BR9B |
| Landform: Shoulder | | Local Relief: Convex | | Sample Point: BR9BU |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A | Community ID: Upland forest |
| Datum: N/A | | Section: 14 | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Range: 23 Dir: E | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. Upland terrace outside of the mosaic wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 7.5YR | 3/2 | 100 | -- | -- | -- | -- | loam with Duff layer |
| 3 | 7 | 2 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 7 | 24 | 3 | 7.5YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR9B**

Sample Point **BR9BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 50 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 15 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>75</u> | x 4 = | <u>300</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>75</u> (A) | | <u>300</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Everett Grosskopf | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Depression | NWI/WWI Classification: N/A | Wetland ID: BR9B |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: BR9BW |
| Latitude: N/A | Longitude: N/A | Community ID: Mosaic Beech/Maple complex |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in a mosaic beech/maple complex within the growing season. Typical representation of wetland depression in mosaic beech/maple wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky loam | |
| 4 | 8 | 2 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 8 | 16 | 3 | 10YR | 5/3 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the F1, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **BR9B** Sample Point **BR9BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Iris virginica</i> | 2 | N | OBL |
| 2. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 3. | <i>Thelypteris palustris</i> | 5 | Y | FACW |
| 4. | <i>Carex lacustris</i> | 5 | Y | OBL |
| 5. | PHALARIS ARUNDINACEA | 2 | N | FACW |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 19 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|---------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>7</u> | x 1 = | <u>7</u> |
| FACW spp. | <u>12</u> | x 2 = | <u>24</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>24</u> (A) | <u>51</u> (B) |
| Prevalence Index = B/A = | | <u>2.125</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR10B | Sample Point: BR10BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland forest | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located within an upland/wetland mosaic forest within the growing season. Small upland terrace within the mosaic wetland complex and is a typical representation of upland in mosaic beech/maple wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 30 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loam with Duff layer | |
| 4 | 14 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand | |
| 14 | 20 | 3 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand | |
| 20 | 28 | 4 | 10YR | 4/3 | 92 | 10YR | 5/6 | 8 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR10B**

Sample Point **3R10BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 30 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 4. | <i>Fagus grandifolia</i> | 15 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 5 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 2. | <i>Carex pensylvanica</i> | 2 | N | UPL |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 4 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>102</u> | x 4 = | <u>408</u> |
| UPL spp. <u>2</u> | x 5 = | <u>10</u> |
| Total <u>104</u> (A) | | <u>418</u> (B) |
| Prevalence Index = B/A = | | <u>4.019</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Sample point is typical representation of upland knoll within upland/wetland mosaic complex. Mosaic consists of approximately 15% upland knolls, most were too small to delineate as upland, such as this area.

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: BR10B |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR10BW |
| Longitude: N/A | | Datum: N/A | | Community ID: Mosaic Beech/Maple complex |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is a typical representation of a wetland depression in mosaic beech/maple upland/wetland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgment. Based upon the landscape position, wetland hydrology and hydric soil parameters observed, the sample plot is located in a wetland.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|----|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | loam |
| 4 | 16 | 2 | 10YR | 4/3 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| 16 | 24 | 3 | 10YR | 4/2 | 98 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR10B**

Sample Point **BR10BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 10 | N | FACU |
| 2. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |
| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |
| Herb Stratum (Plot size: 2 meter radius) | | | | |
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 2 | | |
| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>82</u> | x 4 = | <u>328</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>82</u> (A) | | <u>328</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Trees and shrubs located on small upland knolls that are located in mosaic wetland complex. Approximately 15% of mosaic consists of small upland knolls to small to delineate, however the dominant condition is wetland as represented by this sample point. Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely dominate the seasonally flooded basin in early growing season.

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Terrace | | Local Relief: Convex | | Wetland ID: BR10C |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR10CU |
| Longitude: N/A | | Datum: N/A | | Community ID: Upland forest |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest outside of the wetland/upland mosaic complex within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C6 - Thin Muck Surface <input type="checkbox"/> C7 - Other (Explain in Remarks) <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loam |
| 3 | 6 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 24 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR10C**

Sample Point **BR10CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 40 | Y | FACU |
| 3. | <i>Pinus strobus</i> | 10 | N | FACU |
| 4. | <i>Acer saccharum</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | <i>Pinus resinosa</i> | 2 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 7 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>107</u> | x 4 = | <u>428</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>107</u> (A) | | <u>428</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|---------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: BR10C |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR10CW |
| Longitude: N/A | | Datum: N/A | | Community ID: Complex wetland mosaic |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: **The sample plot is a typical representation of wetland depression in mosaic wetland/upland complex. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgment. Based upon the landscape position, wetland hydrology and hydric soil parameters observed, the sample plot is located in a wetland.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|----|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | mucky silt loam |
| 5 | 20 | 2 | 10YR | 4/3 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the F1 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **BR10C** Sample Point **BR10CW**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|------------------------------|-----------|----------|-------------|
| 1. | <i>Betula alleghaniensis</i> | 5 | N | FAC |
| 2. | <i>Quercus rubra</i> | 10 | N | FACU |
| 3. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 4. | <i>Acer saccharum</i> | 25 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 60 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---------------|--------------------------|-----------|---|------|
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---------------|---------------------------------|-----------|---|------|
| 1. | <i>Carex lacustris</i> | 10 | Y | OBL |
| 2. | <i>PHALARIS ARUNDINACEA</i> | 15 | Y | FACW |
| 3. | <i>Thelypteris palustris</i> | 2 | N | FACW |
| 4. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 5. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 34 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: Trees and shrubs located on small upland ridges that are located in mosaic wetland/upland complex. Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely dominate the seasonally flooded basin in early growing season.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|---------------------|--------------|------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>17</u> | x 2 = | <u>34</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>65</u> | x 4 = | <u>260</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |

Total 104 (A) 330 (B)

Prevalence Index = B/A = 3.173

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Approximately 15% of upland/wetland mosaic consists of upland knolls to small to delineate. Dominant condition of mosaic is wetland depressions represented by this sample point.

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Terrace | | Local Relief: Convex | | Wetland ID: BR10D |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR10DU |
| Longitude: N/A | | Datum: N/A | | Community ID: Upland forest |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a small upland terrace within the mosaic wetland/upland complex. Typical representation of upland in mosaic wetland. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam with Duff layer |
| 4 | 9 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 9 | 24 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR10D**

Sample Point **BR10DU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 2. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 3. | <i>Quercus rubra</i> | 20 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 5 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>100</u> | x 4 = | <u>400</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>100</u> (A) | | <u>400</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

Upland ridge lies approximately 2 feet above wetland complex and was distinctly defined by elevation and upland vegetation. Area was determined to be significant enough in size to delineate as upland. Area identified as upland does not contain wetland depressions and is entirely upland.

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR11B | Sample Point: BR11BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland forest | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **The sample plot is located in a small upland terrace within the mosaic wetland/upland complex. Typical representation of larger sized upland in mosaic wetland. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 34 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 30 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loam with Duff layer | |
| 5 | 8 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 8 | 30 | 3 | 10YR | 5/3 | 88 | 10YR | 5/6 | 12 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **BR11B** Sample Point **BR11BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 40 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 3. | <i>Quercus rubra</i> | 20 | Y | FACU |
| 4. | <i>Betula papyrifera</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | <i>Carex pensylvanica</i> | 2 | Y | UPL |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 7 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. | <u>2</u> | x 5 = | <u>10</u> |
| Total | | <u>107</u> (A) | <u>430</u> (B) |
| Prevalence Index = B/A = | | <u>4.019</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Upland ridge lies approximately 2 feet above wetland complex and was distinctly defined by elevation and upland vegetation. Area was determined to be significant enough in size to delineate as upland. Area identified as upland does not contain wetland depressions and is entirely upland.

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR-11 | Sample Point: BR-11U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 11 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 3 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 3 | 12 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 20 | 4 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **BR-11** Sample Point **BR-11U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer rubrum</i> | 30 | Y | FAC |
| 2. | <i>Quercus rubra</i> | 30 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 10 | N | FACU |
| 4. | <i>Pinus strobus</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

Total Cover = 80

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 2 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 4 | Y | FACU |
| 3. | <i>Corylus cornuta</i> | 2 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 8 | | |

Total Cover = 8

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 2 | Y | FACU |
| 2. | <i>Carex pensylvanica</i> | 2 | Y | UPL |
| 3. | <i>Pinus strobus</i> | 1 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 5 | | |

Total Cover = 5

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Total Cover = 0

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. <u>61</u> | x 4 = | <u>244</u> |
| UPL spp. <u>2</u> | x 5 = | <u>10</u> |
| Total <u>93</u> (A) | | <u>344</u> (B) |
| Prevalence Index = B/A = | | <u>3.699</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

Upland maple and oak woodland. No depressional wetlands in this area.

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR-11W | Sample Point: BR-11W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Mosaic Beech/Maple complex | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally wetland depression within a mosaic of depressional wetland and upland cradle knolls. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. The sample plot is located in a problem area because hydrophytic vegetation is not dominant; however, based upon the wetland hydrology and hydric soils observed, the sample plot is located in a seasonally wetland depression.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input checked="" type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 2 | 24 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR-11W**

Sample Point **BR-11W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 25 | Y | FACU |
| 2. | <i>Acer rubrum</i> | 40 | Y | FAC |
| 3. | <i>Betula alleghaniensis</i> | 10 | N | FAC |
| 4. | <i>Quercus rubra</i> | 5 | N | FACU |
| 5. | <i>Acer saccharum</i> | 2 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 82 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 2 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 4 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 6 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 2. | <i>Carex aquatilis</i> | 1 | N | OBL |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 3 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>1</u> | x 1 = | <u>1</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>50</u> | x 3 = | <u>150</u> |
| FACU spp. <u>38</u> | x 4 = | <u>152</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>91</u> (A) | | <u>307</u> (B) |
| Prevalence Index = B/A = | | <u>3.374</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of 50/20 rule. Vegetation at the sample plot is not hydrophytic. However, it is difficult to assess vegetation directly within the wet depressions, as many of the upland trees occur on subtle knolls elevated generally 6" or more above the surface. Additionally, these depressions likely support additional hydrophytes that may only be present earlier in the growing season.

Additional Remarks:

Mosaic of depressional wetlands, about 15% of area is upland on hummocks (cradle knolls).

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR12A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: BR12AU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Mesic forest |
| | | | Section: 11 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located within a mesic forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 24 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR12A**

Sample Point **BR12AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 25 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 30 | Y | FACU |
| 3. | <i>Ostrya virginiana</i> | 20 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | <i>Ostrya virginiana</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 60 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>120</u> | x 4 = | <u>480</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |
| Total <u>160</u> (A) | | <u>680</u> (B) |
| Prevalence Index = B/A = | | <u>4.250</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: E2K | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR12A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: BR12AW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Wet meadow |
| | | | Section: 11 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Standing water six feet to the east of this wetland point.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|----|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 12 | 1 | 10YR | 2/1 | 98 | 10YR | 4/6 | 2 | C | M | silt loam |
| 12 | 24 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F6 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR12A**

Sample Point **BR12AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|-----------|---|------|
| 1. | <i>PHALARIS ARUNDINACEA</i> | 50 | Y | FACW |
| 2. | <i>Carex lacustris</i> | 15 | Y | OBL |
| 3. | <i>Symplocarpus foetidus</i> | 2 | N | OBL |
| 4. | <i>Impatiens capensis</i> | 2 | N | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 69 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>17</u> | x 1 = | <u>17</u> |
| FACW spp. <u>52</u> | x 2 = | <u>104</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>104</u> (A) | | <u>261</u> (B) |
| Prevalence Index = B/A = | | <u>2.510</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR13A | Sample Point: BR13AU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in a mesic forest within the growing season.. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 5 | 24 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR13A**

Sample Point **BR13AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 75 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 2 | N | FACU |
| 2. | <i>Carex pensylvanica</i> | 2 | N | UPL |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 4 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Remarks: **Mostly bare soil at sample point. Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>107</u> | x 4 = | <u>428</u> |
| UPL spp. | <u>2</u> | x 5 = | <u>10</u> |
| Total | | <u>109</u> (A) | <u>438</u> (B) |
| Prevalence Index = B/A = | | <u>4.018</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Toeslope | | Local Relief: Concave | | Wetland ID: BR13A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: BR13AW |
| | | Longitude: N/A | | Community ID: Alder thicket |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an alder thicket within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 14 | 1 | 10YR | 2/1 | 97 | 10YR | 4/4 | 3 | C | M | mucky silt loam |
| 14 | 17 | 2 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | silty clay loam |
| 17 | 24 | 3 | 10YR | 5/3 | 97 | 10YR | 5/6 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the F1 and F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR13A**

Sample Point **BR13AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer negundo</i> | 30 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 30 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 30 | Y | FACW |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | N | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 35 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 25 | Y | FACW |
| 2. | <i>Carex lacustris</i> | 25 | Y | OBL |
| 3. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 52 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>62</u> | x 2 = | <u>124</u> |
| FAC spp. <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>117</u> (A) | | <u>239</u> (B) |
| Prevalence Index = B/A = | | <u>2.043</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR14A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: BR14AU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Mesic forest |
| | | | Section: 11 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **The sample plot is located in a mesic forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 7 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand |
| 7 | 24 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR14A**

Sample Point **BR14AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 15 | N | FACU |
| 2. | <i>Fagus grandifolia</i> | 60 | Y | FACU |
| 3. | <i>Carpinus caroliniana</i> | 5 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carpinus caroliniana</i> | 15 | Y | FAC |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carex pensylvanica</i> | 80 | Y | UPL |
| 2. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 4. | <i>Schizachne purpurascens</i> | 1 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 85 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. <u>80</u> | x 4 = | <u>320</u> |
| UPL spp. <u>80</u> | x 5 = | <u>400</u> |
| Total <u>180</u> (A) | | <u>780</u> (B) |
| Prevalence Index = B/A = | | <u>4.333</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Houghton muck | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Toeslope | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR14A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: BR14AW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Wet meadow |
| | | | Section: 11 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | 2/1 | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | silt loam | |
| 4 | 14 | 2 | 10YR | 2/1 | 92 | 10YR | 4/6 | 8 | C | M | silt loam |
| 14 | 20 | 3 | 10YR | 5/1 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A12 and F6 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR14A**

Sample Point **BR14AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Crataegus crus-galli</i> | 5 | Y | FAC |
| 2. | <i>Betula alleghaniensis</i> | 20 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----|---|------|
| 1. | <i>Osmundastrum cinnamomeum</i> | 5 | Y | FACW |
| 2. | <i>Symplocarpus foetidus</i> | 5 | Y | OBL |
| 3. | PHALARIS ARUNDINACEA | 10 | Y | FACW |
| 4. | BERBERIS THUNBERGII | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 22 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>47</u> (A) | | <u>118</u> (B) |
| Prevalence Index = B/A = | | <u>2.511</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: BR14B | Sample Point: BR14BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Mesic forest | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in a mesic forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam |
| 4 | 6 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loam |
| 6 | 12 | 3 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 24 | 4 | 10YR | 3/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR14B**

Sample Point **BR14BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 2. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 3. | <i>Carex pensylvanica</i> | 20 | Y | UPL |
| 4. | <i>Quercus rubra</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 29 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>112</u> | x 4 = | <u>448</u> |
| UPL spp. <u>20</u> | x 5 = | <u>100</u> |
| Total <u>134</u> (A) | | <u>552</u> (B) |
| Prevalence Index = B/A = | | <u>4.119</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR14B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: BR14BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Wet meadow |
| | | | Section: 11 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 13 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR 3/2 | 95 | 10YR | 4/6 | 5 | C | M | silt loam |
| 5 | 24 | 2 | 10YR 5/3 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot meets the S5 and F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR14B**

Sample Point **BR14BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 2 | N | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 10 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 12 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>9</u> | x 4 = | <u>36</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>19</u> (A) | | <u>56</u> (B) |
| Prevalence Index = B/A = | | <u>2.947</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Mostly bare soil at sample point connected to wet meadow, shaded by surrounding upland forest. Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Houghton muck | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: BR14C |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: BR14CU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Mesic forest |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a mesic forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 13 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 13 | 24 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR14C**

Sample Point **3R14CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 60 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 5 | N | FACU |
| 3. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 2. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 3. | <i>Solidago canadensis</i> | 5 | N | FACU |
| 4. | <i>PHALARIS ARUNDINACEA</i> | 2 | N | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 52 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>85</u> | x 4 = | <u>340</u> |
| UPL spp. | <u>40</u> | x 5 = | <u>200</u> |
| Total | | <u>127</u> (A) | <u>544</u> (B) |
| Prevalence Index = B/A = | | <u>4.283</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Investigator #2: Everett Grosskopf | | State: Wisconsin |
| Soil Unit: Houghton muck | | NW1/WW1 Classification: N/A | | Wetland ID: BR14C |
| Landform: Toeslope | | Local Relief: Concave | | Sample Point: BR14CW |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A | Community ID: Wet meadow |
| Datum: N/A | | Section: 14 | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Range: 23 Dir: E | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a wet meadow with the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|-----------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 16 | 1 | 10YR | 3/2 | 90 | 10YR | 4/6 | 10 | C | M | silt loam |
| 16 | 20 | 2 | 10YR | 3/2 | 76 | 10YR | 5/6 | 12 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | 10YR | 4/2 | 12 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **BR14C**

Sample Point **3R14CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 40 | Y | FACW |
| 2. | <i>Carex lacustris</i> | 10 | Y | OBL |
| 3. | <i>Helenium autumnale</i> | 5 | N | FACW |
| 4. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 5. | <i>Symplocarpus foetidus</i> | 2 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 62 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>12</u> | x 1 = | <u>12</u> |
| FACW spp. <u>85</u> | x 2 = | <u>170</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>97</u> (A) | | <u>182</u> (B) |
| Prevalence Index = B/A = | | <u>1.876</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-3 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: NE-1A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: NE-1AU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland ridge | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 14 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand |
| 14 | 22 | 2 | 10YR | 6/3 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **NE-1A** Sample Point **NE-1AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 25 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 30 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 10 | N | FACU |
| 4. | <i>Acer rubrum</i> | 15 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer spicatum</i> | 25 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 3. | <i>Corylus cornuta</i> | 15 | Y | FACU |
| 4. | <i>Linnaea borealis</i> | 5 | N | FAC |
| 5. | <i>Quercus rubra</i> | 1 | N | FACU |
| 6. | <i>Carex pensylvanica</i> | 20 | Y | UPL |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 66 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 7 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. | <u>136</u> | x 4 = | <u>544</u> |
| UPL spp. | <u>20</u> | x 5 = | <u>100</u> |
| Total | | <u>186</u> (A) | <u>734</u> (B) |
| Prevalence Index = B/A = | | <u>3.946</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-1B | Sample Point: NE-1BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | loamy sand |
| 4 | 18 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-1B**

Sample Point **NE-1BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 60 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 3. | <i>Quercus rubra</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Corylus cornuta</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | <i>Urtica dioica</i> | 5 | N | FAC |
| 3. | <i>Rubus idaeus var. strigosus</i> | 15 | Y | FAC |
| 4. | <i>Carex pensylvanica</i> | 35 | Y | UPL |
| 5. | <i>Alisma subcordatum</i> | 2 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 72 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>2</u> | x 1 = | <u>2</u> |
| FACW spp. <u>20</u> | x 2 = | <u>40</u> |
| FAC spp. <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. <u>85</u> | x 4 = | <u>340</u> |
| UPL spp. <u>35</u> | x 5 = | <u>175</u> |
| Total <u>162</u> (A) | | <u>617</u> (B) |
| Prevalence Index = B/A = | | <u>3.809</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: NE-1 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: NE-1W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Wet meadow | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 7 | 1 | 10YR | 3/2 | 95 | 10YR | 5/6 | 5 | C | M | mucky silt loam |
| 7 | 9 | 2 | 10YR | 5/3 | 97 | 10YR | 5/6 | 3 | C | M | loamy sand |
| 9 | 16 | 3 | 10YR | 3/2 | 92 | 10YR | 5/6 | 8 | C | M | mucky silt loam |
| 16 | 22 | 4 | 10YR | 5/3 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the F6 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-1**

Sample Point **NE-1W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 40 | Y | OBL |
| 2. | <i>Carex lacustris</i> | 30 | Y | OBL |
| 3. | <i>Alnus incana</i> | 5 | N | FACW |
| 4. | <i>Lycopus uniflorus</i> | 15 | N | OBL |
| 5. | <i>Mentha arvensis</i> | 10 | N | FACW |
| 6. | <i>Laportea canadensis</i> | 5 | N | FACW |
| 7. | <i>Glyceria grandis</i> | 5 | N | OBL |
| 8. | SOLANUM DULCAMARA | 5 | N | FAC |
| 9. | PHALARIS ARUNDINACEA | 2 | N | FACW |
| 10. | <i>Sparganium eurycarpum</i> | 2 | N | OBL |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 119 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. 92 | x 1 = | 92 |
| FACW spp. 32 | x 2 = | 64 |
| FAC spp. 5 | x 3 = | 15 |
| FACU spp. 0 | x 4 = | 0 |
| UPL spp. 0 | x 5 = | 0 |
| Total 129 (A) | | 171 (B) |
| Prevalence Index = B/A = | | 1.326 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-2A | Sample Point: NE-2AU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam |
| 2 | 5 | 2 | 10YR | 3/3 | 100 | -- | -- | -- | -- | loamy sand |
| 5 | 18 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-2A**

Sample Point **NE-2AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 45 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 2. | <i>Corylus cornuta</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 45 | Y | UPL |
| 2. | <i>Corylus cornuta</i> | 50 | Y | FACU |
| 3. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 4. | <i>Linnaea borealis</i> | 5 | N | FAC |
| 5. | <i>Acer saccharum</i> | 1 | N | FACU |
| 6. | <i>Quercus rubra</i> | 1 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 112 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>157</u> | x 4 = | <u>628</u> |
| UPL spp. <u>45</u> | x 5 = | <u>225</u> |
| Total <u>217</u> (A) | | 898 (B) |
| Prevalence Index = B/A = | | <u>4.138</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-2B | Sample Point: NE-2BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >18 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | loamy sand |
| 4 | 6 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | loamy sand |
| 6 | 18 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-2B**

Sample Point **NE-2BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 65 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 55 | Y | UPL |
| 2. | <i>ALLIARIA PETIOLATA</i> | 5 | N | FACU |
| 3. | <i>Laportea canadensis</i> | 2 | N | FACW |
| 4. | <i>Calamagrostis canadensis</i> | 2 | N | OBL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 64 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>2</u> | x 1 = | <u>2</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>80</u> | x 4 = | <u>320</u> |
| UPL spp. <u>55</u> | x 5 = | <u>275</u> |
| Total <u>139</u> (A) | | <u>601</u> (B) |
| Prevalence Index = B/A = | | <u>4.324</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: NE-2 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: NE-2W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Wet meadow | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 4 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|----|-----------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 13 | 1 | 10YR | 2/1 | 95 | 10YR | 4/6 | 5 | C | M | mucky silt loam |
| 13 | 20 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11 and F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-2**

Sample Point **NE-2W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | <i>Acer rubrum</i> | 5 | Y | FAC |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 60 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 3. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 4. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 5. | <i>Urtica dioica</i> | 2 | N | FAC |
| 6. | <i>Carex lacustris</i> | 2 | N | OBL |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 73 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>67</u> | x 1 = | <u>67</u> |
| FACW spp. <u>12</u> | x 2 = | <u>24</u> |
| FAC spp. <u>9</u> | x 3 = | <u>27</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>88</u> (A) | | <u>118</u> (B) |
| Prevalence Index = B/A = | | <u>1.341</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-3A | Sample Point: NE-3AU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam |
| 3 | 12 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 20 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-3A**

Sample Point **NE-3AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 60 | Y | FACU |
| 2. | <i>Corylus cornuta</i> | 5 | N | FACU |
| 3. | <i>Betula papyrifera</i> | 10 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 2 | N | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 2 | N | FACU |
| 3. | <i>Dryopteris carthusiana</i> | 1 | N | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 63 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>1</u> | x 2 = | <u>2</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>79</u> | x 4 = | <u>316</u> |
| UPL spp. | <u>60</u> | x 5 = | <u>300</u> |
| Total | | <u>140</u> (A) | <u>618</u> (B) |
| Prevalence Index = B/A = | | <u>4.414</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Chuck Herrmann | | Investigator #2: Chuck Herrmann | | State: Wisconsin |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | | Wetland ID: NE-3B |
| Landform: Side slope | | Local Relief: Convex | | Sample Point: NE-3BU |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A | Community ID: Upland ridge |
| Datum: N/A | | Section: 14 | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14 N | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Range: 23 Dir: E | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam |
| 3 | 7 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 7 | 20 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-3B**

Sample Point **NE-3BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 80 | Y | FACU |
| 2. | <i>Corylus cornuta</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carex pensylvanica</i> | 70 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 80 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>115</u> | x 4 = | <u>460</u> |
| UPL spp. | <u>70</u> | x 5 = | <u>350</u> |
| Total | | <u>185</u> (A) | <u>810</u> (B) |
| Prevalence Index = B/A = | | <u>4.378</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-3 | Sample Point: NE-3W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Alder thicket | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in an alder thicket. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|----|----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR 2/1 | 93 | | 10YR 5/6 | 7 | C | M | mucky silt loam |
| 5 | 20 | 2 | 10YR 4/2 | 95 | | 10YR 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, F1, F6 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-3**

Sample Point **NE-3W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 45 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = 45 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 65 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = 65 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Glyceria striata</i> | 40 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 15 | Y | OBL |
| 3. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 4. | <i>Alnus incana</i> | 15 | Y | FACW |
| 5. | <i>Impatiens capensis</i> | 5 | N | FACW |
| 6. | <i>Carex stricta</i> | 5 | N | OBL |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| | | Total Cover = 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| | | Total Cover = 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>70</u> | x 1 = | <u>70</u> |
| FACW spp. | <u>130</u> | x 2 = | <u>260</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>200</u> (A) | <u>330</u> (B) |
| Prevalence Index = B/A = | | <u>1.650</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: NE-4B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: NE-4BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Township: 14 N | Range: 23 |
| | | Dir: E | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >18 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | loamy sand |
| 8 | 18 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-4B**

Sample Point **NE-4BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 10 | N | FACU |
| 2. | <i>Acer saccharum</i> | 45 | Y | FACU |
| 3. | <i>Betula papyrifera</i> | 25 | Y | FACU |
| 4. | <i>Acer spicatum</i> | 2 | N | FACU |
| 5. | <i>Populus balsamifera</i> | 2 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 84 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|---|-----|
| 1. | <i>Carex pensylvanica</i> | 95 | Y | UPL |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 95 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>82</u> | x 4 = | <u>328</u> |
| UPL spp. <u>95</u> | x 5 = | <u>475</u> |
| Total <u>179</u> (A) | | <u>807</u> (B) |
| Prevalence Index = B/A = | | <u>4.508</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | NWI/WWI Classification: T3/E2K | State: Wisconsin |
| Soil Unit: Dune land | Local Relief: Concave | Wetland ID: NE-4 |
| Landform: Depression | Latitude: N/A Longitude: N/A Datum: N/A | Sample Point: NE-4W |
| Slope (%): 0-2 | | Community ID: Alder thicket |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in an alder thicket. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 2/1 | 97 | 10YR | 4/6 | 3 | C | M | mucky silt loam |
| 10 | 24 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, F1, and F6 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-4**

Sample Point **NE-4W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 65 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 65 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 45 | Y | OBL |
| 2. | <i>Carex lacustris</i> | 20 | Y | OBL |
| 3. | <i>Lycopus uniflorus</i> | 2 | N | OBL |
| 4. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 5. | <i>Laportea canadensis</i> | 5 | N | FACW |
| 6. | <i>Urtica dioica</i> | 5 | N | FAC |
| 7. | <i>Symphyotrichum ontarionis</i> | 2 | N | FAC |
| 8. | <i>Onoclea sensibilis</i> | 2 | N | FACW |
| 9. | <i>Alnus incana</i> | 2 | N | FACW |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 93 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|---------------------|--------------|------------|
| OBL spp. <u>77</u> | x 1 = | <u>77</u> |
| FACW spp. <u>74</u> | x 2 = | <u>148</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |

Total 158 (A) 246 (B)

Prevalence Index = B/A = 1.557

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | Soil Unit: Granby loamy fine sand | State: Wisconsin |
| Landform: Terrace | NWI/WWI Classification: T3/E2K | Wetland ID: NE-5A |
| Slope (%): 0-2 | Local Relief: Linear | Sample Point: NE-5AU |
| Latitude: N/A | Longitude: N/A | Community ID: Upland ridge |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 20 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-5A**

Sample Point **NE-5AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|---------------------------------------------------|---------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 25 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |
| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
| 1. | <i>Prunus virginiana</i> | 15 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |
| Herb Stratum (Plot size: 2 meter radius) | | | | |
| 1. | <i>Carex pensylvanica</i> | 15 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 20 | | |
| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. <u>15</u> | x 5 = | <u>75</u> |
| Total <u>120</u> (A) | | <u>495</u> (B) |
| Prevalence Index = B/A = | | <u>4.125</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-5B | Sample Point: NE-5BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 20 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-5B**

Sample Point **NE-5BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 85 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 10 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>125</u> | x 4 = | <u>500</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>125</u> (A) | <u>500</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: NE-5 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: NE-5W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Community ID: Wet meadow |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Township: 14 N | Range: 23 |
| | | Dir: E | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 6 | 2 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 20 | 3 | 10YR | 4/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the S1 Indicator described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-5**

Sample Point **NE-5W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 65 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 40 | Y | OBL |
| 2. | <i>Carex stricta</i> | 55 | Y | OBL |
| 3. | <i>Symphotrichum ontarionis</i> | 10 | N | FAC |
| 4. | <i>Urtica dioica</i> | 5 | N | FAC |
| 5. | <i>Equisetum sylvaticum</i> | 2 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 112 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>95</u> | x 1 = | <u>95</u> |
| FACW spp. <u>77</u> | x 2 = | <u>154</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>187</u> | (A) | <u>294</u> (B) |
| Prevalence Index = B/A = | | <u>1.572</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: NE-6A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: NE-6AU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Township: 14 N | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 3 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 3 | 20 | 3 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **NE-6A** Sample Point **NE-6AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 10 | N | FACU |
| 2. | <i>Acer saccharum</i> | 55 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 15 | N | FACU |
| 4. | <i>Pinus strobus</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 55 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 25 | Y | UPL |
| 2. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 27 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>157</u> | x 4 = | <u>628</u> |
| UPL spp. | <u>25</u> | x 5 = | <u>125</u> |
| Total | | <u>182</u> (A) | <u>753</u> (B) |
| Prevalence Index = B/A = | | <u>4.137</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-6B | Sample Point: NE-6BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 14 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 14 | 20 | 3 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **NE-6B**

Sample Point **NE-6BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 45 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 15 | N | FACU |
| 3. | <i>Quercus rubra</i> | 15 | N | FACU |
| 4. | <i>Prunus serotina</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | <i>Carex aquatilis</i> | 2 | N | OBL |
| 5. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 74 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>7</u> | x 1 = | <u>7</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>95</u> | x 4 = | <u>380</u> |
| UPL spp. <u>60</u> | x 5 = | <u>300</u> |
| Total <u>164</u> (A) | | <u>691</u> (B) |
| Prevalence Index = B/A = | | <u>4.213</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: NE-6 | Sample Point: NE-6W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Community ID: Wet meadow |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a wet meadow. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **NE-6** Sample Point **NE-6W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----|---|------|
| 1. | <i>Calamagrostis canadensis</i> | 15 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 3. | <i>Laportea canadensis</i> | 40 | Y | FACW |
| 4. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 5. | <i>Onoclea sensibilis</i> | 2 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 69 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. | <u>82</u> | x 2 = | <u>164</u> |
| FAC spp. | <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>109</u> (A) | <u>195</u> (B) |
| Prevalence Index = B/A = | | <u>1.789</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-1 | Sample Point: P-1U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland swale | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >22 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam |
| 5 | 16 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 16 | 22 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-1**

Sample Point **P-1U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus resinosa</i> | 15 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 25 | Y | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW |
| 4. | <i>Acer spicatum</i> | 5 | N | FACU |
| 5. | <i>Pinus strobus</i> | 2 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 57 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 10 | Y | FACU |
| 3. | <i>Carex pensylvanica</i> | 35 | Y | UPL |
| 4. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 5. | <i>Prunus virginiana</i> | 2 | N | FACU |
| 6. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 7. | <i>Fragaria virginiana</i> | 2 | N | FACU |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 71 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>12</u> | x 2 = | <u>24</u> |
| FAC spp. <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. <u>106</u> | x 4 = | <u>424</u> |
| UPL spp. <u>35</u> | x 5 = | <u>175</u> |
| Total <u>163</u> (A) | | <u>653</u> (B) |
| Prevalence Index = B/A = | | <u>4.006</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-1 | Sample Point: P-1W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. Hydrology observations of high water table (16 in.) and saturation (10 in.) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR 3/2 | 100 | — | — | — | — | sandy loam | |
| 3 | 24 | 2 | 10YR 5/2 | 97 | 10YR | 5/6 | 7 | C | M | loamy sand |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: The soil at the sample plot meets the A11, S5, and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-1**

Sample Point **P-1W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Rubus idaeus var. strigosus</i> | 15 | Y | FAC |
| 2. | <i>Urtica dioica</i> | 40 | Y | FAC |
| 3. | <i>Carex stricta</i> | 10 | N | OBL |
| 4. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 5. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 72 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>55</u> | x 3 = | <u>165</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>72</u> (A) | | <u>184</u> (B) |
| Prevalence Index = B/A = | | <u>2.556</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-2 | Sample Point: P-2U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >22 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 14 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | loamy sand |
| 14 | 22 | 2 | 10YR | 6/3 | 100 | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-2**

Sample Point **P-2U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 30 | Y | FACU |
| 2. | <i>Acer spicatum</i> | 5 | N | FACU |
| 3. | <i>Acer rubrum</i> | 5 | N | FAC |
| 4. | <i>Pinus strobus</i> | 10 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 50 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 10 | Y | FACU |
| 2. | <i>Acer rubrum</i> | 10 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 65 | Y | UPL |
| 2. | <i>Asclepias syriaca</i> | 5 | N | UPL |
| 3. | <i>Rubus idaeus var. strigosus</i> | 30 | Y | FAC |
| 4. | <i>CIRSIIUM ARVENSE</i> | 2 | N | FACU |
| 5. | <i>Galium triflorum</i> | 5 | N | FACU |
| 6. | <i>Pinus strobus</i> | 2 | N | FACU |
| 7. | <i>Urtica dioica</i> | 5 | N | FAC |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 114 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>50</u> | x 3 = | <u>150</u> |
| FACU spp. <u>64</u> | x 4 = | <u>256</u> |
| UPL spp. <u>70</u> | x 5 = | <u>350</u> |
| Total <u>184</u> (A) | | <u>756</u> (B) |
| Prevalence Index = B/A = | | <u>4.109</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Chuck Herrmann | | Investigator #2: Chuck Herrmann | | State: Wisconsin |
| Soil Unit: Dune land | NW1/WW1 Classification: N/A | | | Wetland ID: P-2 |
| Landform: Depression | Local Relief: Concave | | Datum: N/A | Sample Point: P-2W |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Seasonally Flooded Basin | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Township: 14 N | | |
| | | Range: 23 Dir: E | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 5 | 12 | 2 | 10YR | 4/1 | 94 | 10YR | 5/6 | 6 | C | M | loamy sand |
| 12 | 20 | 3 | 10YR | 6/2 | 92 | 10YR | 5/6 | 8 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, F1 and S5 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-2**

Sample Point **P-2W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----|---|-----|
| 1. | <i>Rubus idaeus var. strigosus</i> | 45 | Y | FAC |
| 2. | <i>Calamagrostis canadensis</i> | 15 | N | OBL |
| 3. | <i>Carex stricta</i> | 35 | Y | OBL |
| 4. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 5. | <i>Urtica dioica</i> | 5 | N | FAC |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 110 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>60</u> | x 1 = | <u>60</u> |
| FACW spp. <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. <u>50</u> | x 3 = | <u>150</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>125</u> (A) | | <u>240</u> (B) |
| Prevalence Index = B/A = | | <u>1.920</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-3 | Sample Point: P-3W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (16 inches) and saturation (12 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 3 | 13 | 2 | 10YR | 4/1 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| 13 | 24 | 3 | 10YR | 6/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11, S11 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-3**

Sample Point **P-3W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 85 | Y | OBL |
| 2. | <i>Urtica dioica</i> | 10 | N | FAC |
| 3. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 4. | <i>Carex pensylvanica</i> | 5 | N | UPL |
| 5. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 112 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>95</u> | x 1 = | <u>95</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>12</u> | x 3 = | <u>36</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>112</u> (A) | | <u>156</u> (B) |
| Prevalence Index = B/A = | | <u>1.393</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-4 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-4U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland swale | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 5 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand |
| 5 | 20 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-4**

Sample Point **P-4U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 35 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 10 | N | FACU |
| 3. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 4. | <i>Quercus rubra</i> | 25 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 35 | Y | UPL |
| 2. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 3. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. | <u>35</u> | x 5 = | <u>175</u> |
| Total | | <u>145</u> (A) | <u>600</u> (B) |
| Prevalence Index = B/A = | | <u>4.138</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-4 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-4W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally Flooded Basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 6 | 20 | 2 | 10YR | 4/2 | 94 | 10YR | 5/6 | 6 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, F1 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-4**

Sample Point **P-4W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 85 | Y | OBL |
| 2. | <i>PHALARIS ARUNDINACEA</i> | 5 | N | FACW |
| 3. | <i>Onoclea sensibilis</i> | 5 | N | FACW |
| 4. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 100 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>90</u> | x 1 = | <u>90</u> |
| FACW spp. <u>25</u> | x 2 = | <u>50</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>115</u> (A) | | <u>140</u> (B) |
| Prevalence Index = B/A = | | <u>1.217</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-5 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-5U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland swale |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **Although sample point lies within a closed depression, the presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 6 | 2 | 10YR | 4/1 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 12 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | sand |
| 12 | 24 | 4 | 10YR | 3/3 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-5**

Sample Point **P-5U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 2. | <i>Acer rubrum</i> | 10 | Y | FAC |
| 3. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Rubus idaeus var. strigosus</i> | 20 | Y | FAC |
| 2. | <i>Urtica dioica</i> | 10 | N | FAC |
| 3. | <i>ALLIARIA PETIOLATA</i> | 10 | N | FACU |
| 4. | <i>Pinus strobus</i> | 10 | N | FACU |
| 5. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 6. | <i>Acer saccharum</i> | 5 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 95 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------------------|--------------|-----------------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>40</u> | x 3 = | <u>120</u> |
| FACU spp. | <u>65</u> | x 4 = | <u>260</u> |
| UPL spp. | <u>40</u> | x 5 = | <u>200</u> |
| Total | <u>145</u> (A) | | <u>580</u> (B) |
| Prevalence Index = B/A = | | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-6 | Sample Point: P-6W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (16 inches) and saturation (10 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | silt loam | |
| 3 | 16 | 2 | 10YR | 4/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 16 | 24 | 3 | 10YR | 5/3 | 95 | 10YR | 5/6 | 5 | C | M | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-6**

Sample Point **P-6W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|---|------|
| 1. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 2. | <i>Calamagrostis canadensis</i> | 5 | Y | OBL |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 10 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>40</u> | x 2 = | <u>80</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>50</u> (A) | | <u>105</u> (B) |
| Prevalence Index = B/A = | | <u>2.100</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Chuck Herrmann | | Investigator #2: Chuck Herrmann | | State: Wisconsin |
| Soil Unit: Dune land | NW1/WWI Classification: N/A | | | Wetland ID: P-7 |
| Landform: Depression | Local Relief: Concave | | Datum: N/A | Sample Point: P-7W |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Seasonally Flooded Basin | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Township: 14 N | | |
| | | Range: 23 Dir: E | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 28 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. No primary indicators were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 4 | 15 | 2 | 10YR | 4/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 15 | 28 | 3 | 10YR | 5/3 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-7**

Sample Point **P-7W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 50 | Y | OBL |
| 2. | <i>Acer saccharum</i> | 25 | Y | FACU |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 75 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>50</u> | x 1 = | <u>50</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>25</u> | x 4 = | <u>100</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>75</u> (A) | | <u>150</u> (B) |
| Prevalence Index = B/A = | | <u>2.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant hydrophytic vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-8 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-8U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland swale |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Although hydric soil is present at the sample plot, the lack of hydrophytic vegetation and wetland hydrology indicate the sample plot is located in an upland.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: Although sample point is located within a closed depression, the presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|----|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | sandy loam |
| 4 | 8 | 2 | 10YR | 4/1 | 97 | 10YR | 4/6 | 3 | C | M | sand |
| 8 | 20 | 3 | 10YR | 4/4 | 99 | 10YR | 4/6 | 1 | C | M | sand |
| 20 | 24 | 4 | 10YR | 4/3 | 100 | -- | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-8**

Sample Point **P-8U**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---------------|---------------------------------|------------|---|------|
| 1. | <i>Carex pensylvanica</i> | 75 | Y | UPL |
| 2. | <i>Carex stricta</i> | 5 | N | OBL |
| 3. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 4. | <i>Acer saccharum</i> | 15 | N | FACU |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 100 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

| | | | |
|-----------|-----------|-------|------------|
| OBL spp. | <u>10</u> | x 1 = | <u>10</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>15</u> | x 4 = | <u>60</u> |
| UPL spp. | <u>75</u> | x 5 = | <u>375</u> |

Total 100 (A) 445 (B)

Prevalence Index = B/A = 4.450

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Chuck Herrmann | | Investigator #2: Chuck Herrmann | | State: Wisconsin |
| Soil Unit: Dune land | NW/WWI Classification: N/A | | | Wetland ID: P-9 |
| Landform: Depression | Local Relief: Concave | | Datum: N/A | Sample Point: P-9W |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Seasonally Flooded Basin | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Township: 14 N | | |
| | | Range: 23 Dir: E | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (10 inches) and saturation (8 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|----|---------------------------------|------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 5 | 24 | 2 | 10YR | 5/1 | 95 | 10YR | 4/6 | 5 | C | M | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11, F1 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-9**

Sample Point **P-9W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex stricta</i> | 65 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 15 | N | OBL |
| 3. | <i>Acer saccharum</i> | 10 | N | FACU |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|---------------|----------------|
| OBL spp. | <u>80</u> | x 1 = | <u>80</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>10</u> | x 4 = | <u>40</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>90</u> (A) | <u>120</u> (B) |
| Prevalence Index = B/A = | | <u>1.333</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Datum: N/A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | Wetland ID: P-10 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Section: 14 | |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Community ID: Seasonally Flooded Basin |
| Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Township: 14 N |
| Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (10 inches) and saturation (6 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|-----------------|------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 5 | 24 | 2 | 10YR | 5/1 | 95 | 10YR | 4/6 | 5 | C | M | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11, F1 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-10**

Sample Point **P-10W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopus uniflorus</i> | 70 | Y | OBL |
| 2. | <i>Urtica dioica</i> | 5 | N | FAC |
| 3. | <i>Acer saccharum</i> | 15 | N | FACU |
| 4. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 5. | <i>Carex stricta</i> | 10 | N | OBL |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>85</u> | x 1 = | <u>85</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>15</u> | x 4 = | <u>60</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>105</u> (A) | | <u>160</u> (B) |
| Prevalence Index = B/A = | | <u>1.524</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-13 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-13U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 16 | 2 | 7.5YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 16 | 22 | 3 | 7.5YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-13**

Sample Point **P-13U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 65 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----|----------|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|----|------|
| 1. | <i>Carex pensylvanica</i> | 70 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 10 | N | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 80 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|----|----------|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>75</u> | x 4 = | <u>300</u> |
| UPL spp. | <u>70</u> | x 5 = | <u>350</u> |
| Total | | <u>145</u> (A) | <u>650</u> (B) |
| Prevalence Index = B/A = | | <u>4.483</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-13 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-13W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 2 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | 10YR | 5/6 | 5 | C | M | sandy loam |
| 4 | 20 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-13**

Sample Point **P-13W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Leersia oryzoides</i> | 15 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 35 | Y | OBL |
| 3. | <i>Calamagrostis canadensis</i> | 10 | Y | OBL |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 60 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------------|
| OBL spp. <u>60</u> | x 1 = | <u>60</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>60</u> | (A) | <u>60</u> (B) |
| Prevalence Index = B/A = | | <u>1.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-14W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-14**

Sample Point **P-14W**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---------------|---------------------------------|-----------|---|------|
| 1. | <i>Lycopus uniflorus</i> | 70 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 3. | <i>Carex vulpinoidea</i> | 2 | N | OBL |
| 4. | <i>Laportea canadensis</i> | 2 | N | FACW |
| 5. | <i>Thelypteris palustris</i> | 2 | N | FACW |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 86 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

| | | | |
|-----------|-----------|-------|-----------|
| OBL spp. | 82 | x 1 = | 82 |
| FACW spp. | 4 | x 2 = | 8 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |

Total **86** (A) **90** (B)

Prevalence Index = B/A = **1.047**

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-15B | Sample Point: P-15BW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 5 | 1 | 10YR | 2/1 | 97 | -- | -- | -- | -- | sandy loam | |
| 5 | 20 | 2 | 10YR | 5/2 | 95 | 10YR | 4/4 | 2 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-15B**

Sample Point **P-15BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 2. | <i>Glyceria striata</i> | 25 | Y | OBL |
| 3. | <i>Carex stricta</i> | 5 | N | OBL |
| 4. | <i>Carex intumescens</i> | 5 | N | FACW |
| 5. | PHALARIS ARUNDINACEA | 2 | N | FACW |
| 6. | <i>Acer saccharum</i> | 2 | N | FACU |
| 7. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 46 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>35</u> | x 1 = | <u>35</u> |
| FACW spp. <u>14</u> | x 2 = | <u>28</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>51</u> (A) | | <u>71</u> (B) |
| Prevalence Index = B/A = | | <u>1.392</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-15C | Sample Point: P-15CW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally flooded basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 8 | 2 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 8 | 20 | 3 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-15C**

Sample Point **P-15CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Dryopteris carthusiana</i> | 25 | Y | FACW |
| 2. | <i>Calamagrostis canadensis</i> | 20 | Y | OBL |
| 3. | <i>Impatiens capensis</i> | 2 | N | FACW |
| 4. | <i>Carex aquatilis</i> | 10 | N | OBL |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 57 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. <u>37</u> | x 2 = | <u>74</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>67</u> (A) | | <u>104</u> (B) |
| Prevalence Index = B/A = | | <u>1.552</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-15 | Sample Point: P-15U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 12 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 20 | 3 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **P-15** Sample Point **P.15U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 70 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 75 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 10 | N | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 85 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>85</u> | x 4 = | <u>340</u> |
| UPL spp. | <u>75</u> | x 5 = | <u>375</u> |
| Total | | <u>160</u> (A) | <u>715</u> (B) |
| Prevalence Index = B/A = | | <u>4.469</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-15 | Sample Point: P-15W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally flooded basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (10 inches) and saturation (6 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 20 | 2 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-15**

Sample Point **P-15W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Urtica dioica</i> | 25 | Y | FAC |
| 2. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 3. | <i>Carex aquatilis</i> | 15 | Y | OBL |
| 4. | <i>Dryopteris carthusiana</i> | 5 | N | FACW |
| 5. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 6. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 7. | <i>Carex vulpinoidea</i> | 10 | N | OBL |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 77 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|---------------|----------------|
| OBL spp. | 45 | x 1 = | 45 |
| FACW spp. | 5 | x 2 = | 10 |
| FAC spp. | 25 | x 3 = | 75 |
| FACU spp. | 2 | x 4 = | 8 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | | 77 (A) | 138 (B) |
| Prevalence Index = B/A = | | 1.792 | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 09/29/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | NWI/WWI Classification: N/A | State: Wisconsin |
| Soil Unit: Dune land | Local Relief: Concave | Wetland ID: P-16B |
| Landform: Depression | Latitude: N/A Longitude: N/A Datum: N/A | Sample Point: P-16BU |
| Slope (%): 0-2 | | Community ID: Upland swale |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | sandy loam |
| 2 | 7 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | -- | loamy sand |
| 7 | 18 | 3 | 10YR | 4/3 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 18 | 24 | 4 | 10YR | 5/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-16B**

Sample Point **P-16BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | <i>Corylus cornuta</i> | 5 | Y | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Calamagrostis canadensis</i> | 25 | Y | OBL |
| 2. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 3. | <i>Acer saccharum</i> | 5 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>25</u> | x 4 = | <u>100</u> |
| UPL spp. | <u>60</u> | x 5 = | <u>300</u> |
| Total | | <u>110</u> (A) | <u>425</u> (B) |
| Prevalence Index = B/A = | | <u>3.864</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703195 | Date: 09/29/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | NWI/WWI Classification: N/A | State: Wisconsin |
| Soil Unit: Dune land | Local Relief: Concave | Wetland ID: P-16 |
| Landform: Depression | Latitude: N/A Longitude: N/A Datum: N/A | Sample Point: P-16W |
| Slope (%): 0-2 | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.33 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 16 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 12 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 3 | 10 | 2 | 10YR | 4/2 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| 10 | 20 | 3 | 10YR | 6/1 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-16**

Sample Point **P-16W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | BERBERIS THUNBERGII | 2 | N | FACU |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 30 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 3. | <i>Onoclea sensibilis</i> | 2 | N | FACW |
| 4. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 5. | <i>Carex stricta</i> | 2 | N | OBL |
| 6. | <i>Urtica dioica</i> | 2 | N | FAC |
| 7. | CIRSIIUM ARVENSE | 2 | N | FACU |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 58 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------------|
| OBL spp. <u>47</u> | x 1 = | <u>47</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>4</u> | x 4 = | <u>16</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>60</u> (A) | | <u>88</u> (B) |
| Prevalence Index = B/A = | | <u>1.467</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | NWI/WWI Classification: N/A | State: Wisconsin |
| Soil Unit: Dune land | Local Relief: Concave | Wetland ID: P-19 |
| Landform: Depression | Latitude: N/A Longitude: N/A Datum: N/A | Sample Point: P-19W |
| Slope (%): 0-2 | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Primary indicators of high water table (12 in.) and saturation (8 in.) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 20 | 2 | 10YR | 6/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-19**

Sample Point **P-19W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 65 | Y | OBL |
| 2. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 3. | <i>Acer rubrum</i> | 2 | N | FAC |
| 4. | <i>Acer saccharum</i> | 1 | N | FACU |
| 5. | <i>Toxicodendron radicans</i> | 2 | N | FAC |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 75 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>65</u> | x 1 = | <u>65</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>4</u> | x 3 = | <u>12</u> |
| FACU spp. <u>1</u> | x 4 = | <u>4</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>75</u> (A) | | <u>91</u> (B) |
| Prevalence Index = B/A = | | <u>1.213</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-20 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-20U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 18 | 2 | 7.5YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 18 | 24 | 3 | 7.5YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-20**

Sample Point **P-20U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 90 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----|----|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----|----|------|
| 1. | <i>Carex pensylvanica</i> | 90 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 2 | N | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 92 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|----|----|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>92</u> | x 4 = | <u>368</u> |
| UPL spp. <u>90</u> | x 5 = | <u>450</u> |
| Total <u>182</u> (A) | | <u>818</u> (B) |
| Prevalence Index = B/A = | | <u>4.495</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-20 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-20W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 2 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 20 | 2 | 10YR | 6/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-20**

Sample Point **P-20W**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---------------|------------------------------------|-----------|---|------|
| 1. | <i>Calamagrostis canadensis</i> | 65 | Y | OBL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 15 | N | FAC |
| 3. | <i>Onoclea sensibilis</i> | 5 | N | FACW |
| 4. | <i>Dryopteris carthusiana</i> | 5 | N | FACW |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 90 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>65</u> | x 1 = | <u>65</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>90</u> (A) | | <u>130</u> (B) |
| Prevalence Index = B/A = | | <u>1.444</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-21 | Sample Point: P-21U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary: | Secondary: |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 18 | 2 | 7.5YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 18 | 24 | 3 | 7.5YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-21**

Sample Point **P-21U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 45 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 45 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 65 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 15 | N | FAC |
| 3. | <i>Acer saccharum</i> | 5 | N | FACU |
| 4. | <i>Asclepias syriaca</i> | 5 | N | UPL |
| 5. | <i>BERBERIS THUNBERGII</i> | 10 | N | FACU |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>75</u> | x 4 = | <u>300</u> |
| UPL spp. <u>70</u> | x 5 = | <u>350</u> |
| Total <u>160</u> (A) | | <u>695</u> (B) |
| Prevalence Index = B/A = | | <u>4.344</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-21 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-21W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 1 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 20 | 2 | 10YR 6/2 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-21**

Sample Point **P-21W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Laportea canadensis</i> | 10 | N | FACW |
| 2. | <i>Calamagrostis canadensis</i> | 40 | Y | OBL |
| 3. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 4. | <i>Epilobium coloratum</i> | 15 | Y | OBL |
| 5. | <i>Carex comosa</i> | 10 | N | OBL |
| 6. | <i>Impatiens capensis</i> | 5 | N | FACW |
| 7. | <i>CIRSIUM ARVENSE</i> | 2 | N | FACU |
| 8. | <i>Scutellaria galericulata</i> | 2 | N | OBL |
| 9. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 91 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>72</u> | x 1 = | <u>72</u> |
| FACW spp. <u>17</u> | x 2 = | <u>34</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>91</u> (A) | | <u>114</u> (B) |
| Prevalence Index = B/A = | | <u>1.253</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-22 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-22W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 12 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 20 | 3 | 10YR | 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-22**

Sample Point **P-22W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 35 | Y | OBL |
| 2. | <i>Geum canadense</i> | 2 | N | FAC |
| 3. | <i>Laportea canadensis</i> | 5 | N | FACW |
| 4. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 5. | <i>Carex intumescens</i> | 10 | N | FACW |
| 6. | <i>Impatiens capensis</i> | 2 | N | FACW |
| 7. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 61 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>35</u> | x 1 = | <u>35</u> |
| FACW spp. <u>19</u> | x 2 = | <u>38</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>61</u> (A) | | <u>99</u> (B) |
| Prevalence Index = B/A = | | <u>1.623</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-23 | Sample Point: P-23W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally flooded basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 26 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (16 inches) and saturation (12 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 7 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 7 | 30 | 2 | 10YR 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-23**

Sample Point **P-23W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | BERBERIS THUNBERGII | 15 | Y | FACU |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 60 | Y | OBL |
| 2. | <i>Equisetum sylvaticum</i> | 2 | N | FACW |
| 3. | <i>Carex pensylvanica</i> | 10 | N | UPL |
| 4. | <i>Acer saccharum</i> | 2 | N | FACU |
| 5. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 6. | <i>Quercus rubra</i> | 1 | N | FACU |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 77 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>60</u> | x 1 = | <u>60</u> |
| FACW spp. <u>4</u> | x 2 = | <u>8</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>18</u> | x 4 = | <u>72</u> |
| UPL spp. <u>10</u> | x 5 = | <u>50</u> |
| Total <u>92</u> (A) | | <u>190</u> (B) |
| Prevalence Index = B/A = | | <u>2.065</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-25U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B15 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 15 | 2 | 10YR 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 15 | 22 | 3 | 10YR 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-25**

Sample Point **P-25U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 50 | | |

Total Cover = **50**

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 40 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 10 | N | FACU |
| 3. | <i>Fagus grandifolia</i> | 10 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 60 | | |

Total Cover = **60**

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 2. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 3. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 4. | <i>Acer saccharum</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 70 | | |

Total Cover = **70**

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Total Cover = **0**

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------|--------------|------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>135</u> | x 4 = | <u>540</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |

Total 180 (A) 745 (B)

Prevalence Index = B/A = 4.139

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-25 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-25W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally flooded basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-25**

Sample Point **P-25W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 70 | Y | OBL |
| 2. | <i>Onoclea sensibilis</i> | 10 | N | FACW |
| 3. | <i>Urtica dioica</i> | 5 | N | FAC |
| 4. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 5. | PHALARIS ARUNDINACEA | 5 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 95 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>75</u> | x 1 = | <u>75</u> |
| FACW spp. | <u>40</u> | x 2 = | <u>80</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>120</u> (A) | <u>170</u> (B) |
| Prevalence Index = B/A = | | <u>1.417</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-26 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-26W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally flooded basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (16 inches) and saturation (12 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-26**

Sample Point **P-26W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 10 | Y | OBL |
| 2. | <i>Dryopteris carthusiana</i> | 5 | Y | FACW |
| 3. | <i>Acer saccharum</i> | 2 | N | FACU |
| 4. | <i>Quercus rubra</i> | 2 | N | FACU |
| 5. | <i>Carex aquatilis</i> | 2 | N | OBL |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 21 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>12</u> | x 1 = | <u>12</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>4</u> | x 4 = | <u>16</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>21</u> (A) | | <u>38</u> (B) |
| Prevalence Index = B/A = | | <u>1.810</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: T3/E2K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-27 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-27W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally flooded basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (12 inches) and saturation (6 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 20 | 2 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-27**

Sample Point **P-27W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 35 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----|---|------|
| 1. | <i>Calamagrostis canadensis</i> | 35 | Y | OBL |
| 2. | <i>Dryopteris carthusiana</i> | 10 | N | FACW |
| 3. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 4. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 5. | <i>Acer rubrum</i> | 1 | N | FAC |
| 6. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 101 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>35</u> | x 1 = | <u>35</u> |
| FACW spp. <u>45</u> | x 2 = | <u>90</u> |
| FAC spp. <u>11</u> | x 3 = | <u>33</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |
| Total <u>136</u> (A) | | <u>378</u> (B) |
| Prevalence Index = B/A = | | <u>2.779</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-29 | Sample Point: P-29U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 19 | 2 | 7.5YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 19 | 22 | 3 | 7.5YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-29**

Sample Point **P-29U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Ostrya virginiana</i> | 10 | N | FACU |
| 2. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | <i>POA PRATENSIS</i> | 10 | N | FACU |
| 3. | <i>Rubus idaeus var. strigosus</i> | 15 | N | FAC |
| 4. | <i>Acer saccharum</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>70</u> | x 4 = | <u>280</u> |
| UPL spp. <u>60</u> | x 5 = | <u>300</u> |
| Total <u>145</u> (A) | | <u>625</u> (B) |
| Prevalence Index = B/A = | | <u>4.310</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-29 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-29W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-29**

Sample Point **P-29W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | BERBERIS THUNBERGII | 10 | Y | FACU |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex intumescens</i> | 10 | Y | FACW |
| 2. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | <i>Impatiens capensis</i> | 5 | N | FACW |
| 5. | <i>Calamagrostis canadensis</i> | 2 | N | OBL |
| 6. | <i>Scutellaria galericulata</i> | 2 | N | OBL |
| 7. | <i>Laportea canadensis</i> | 5 | N | FACW |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 41 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>19</u> | x 1 = | <u>19</u> |
| FACW spp. <u>22</u> | x 2 = | <u>44</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>10</u> | x 4 = | <u>40</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>51</u> (A) | | <u>103</u> (B) |
| Prevalence Index = B/A = | | <u>2.020</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-30 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-30W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 5 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-30**

Sample Point **P-30W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 45 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 40 | Y | OBL |
| 3. | <i>Laportea canadensis</i> | 2 | N | FACW |
| 4. | <i>Onoclea sensibilis</i> | 2 | N | FACW |
| 5. | <i>Carex comosa</i> | 5 | N | OBL |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 94 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>90</u> | x 1 = | <u>90</u> |
| FACW spp. <u>4</u> | x 2 = | <u>8</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>94</u> (A) | | <u>98</u> (B) |
| Prevalence Index = B/A = | | <u>1.043</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-31 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-31U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 20 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-31**

Sample Point **P-31U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROBINIA PSEUDOACACIA</i> | 5 | N | FACU |
| 2. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 25 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 3. | <i>Calamagrostis canadensis</i> | 20 | Y | OBL |
| 4. | <i>Asclepias syriaca</i> | 5 | N | UPL |
| 5. | <i>Toxicodendron radicans</i> | 5 | N | FAC |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 95 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. | <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>50</u> | x 4 = | <u>200</u> |
| UPL spp. | <u>65</u> | x 5 = | <u>325</u> |
| Total | | <u>150</u> (A) | <u>580</u> (B) |
| Prevalence Index = B/A = | | <u>3.867</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-31 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-31W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 5 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-31**

Sample Point **P-31W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex intumescens</i> | 10 | N | FACW |
| 2. | <i>Lycopus uniflorus</i> | 15 | N | OBL |
| 3. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 4. | <i>Glyceria striata</i> | 60 | Y | OBL |
| 5. | <i>Urtica dioica</i> | 2 | N | FAC |
| 6. | <i>Carex vulpinoidea</i> | 5 | N | OBL |
| 7. | GLECHOMA HEDERACEA | 5 | N | FACU |
| 8. | <i>Persicaria pensylvanica</i> | 1 | N | FACW |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 108 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>90</u> | x 1 = | <u>90</u> |
| FACW spp. <u>26</u> | x 2 = | <u>52</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>123</u> (A) | | <u>168</u> (B) |
| Prevalence Index = B/A = | | <u>1.366</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-32 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-32W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy muck mineral |
| 4 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-32**

Sample Point **P-32W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 30 | Y | OBL |
| 2. | <i>Thelypteris palustris</i> | 25 | Y | FACW |
| 3. | <i>Laportea canadensis</i> | 5 | N | FACW |
| 4. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 5. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 6. | <i>PHALARIS ARUNDINACEA</i> | 35 | Y | FACW |
| 7. | <i>Lycopus uniflorus</i> | 2 | N | OBL |
| 8. | <i>Garex intumescens</i> | 10 | N | FACW |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 114 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. 32 | x 1 = | 32 |
| FACW spp. 77 | x 2 = | 154 |
| FAC spp. 5 | x 3 = | 15 |
| FACU spp. 0 | x 4 = | 0 |
| UPL spp. 0 | x 5 = | 0 |
| Total 114 (A) | | 201 (B) |
| Prevalence Index = B/A = | | 1.763 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-33 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-33U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 16 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 16 | 20 | 3 | 10YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-33**

Sample Point **P-33U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 30 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 45 | Y | FACU |
| 3. | <i>Pinus strobus</i> | 15 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 85 | Y | UPL |
| 2. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 3. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 92 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. | <u>95</u> | x 4 = | <u>380</u> |
| UPL spp. | <u>85</u> | x 5 = | <u>425</u> |
| Total | | <u>182</u> (A) | <u>811</u> (B) |
| Prevalence Index = B/A = | | <u>4.456</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-33 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-33W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of saturation (16 inches) was found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 3 | 16 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 16 | 24 | 3 | 10YR | 6/1 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-33**

Sample Point **P-33W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | BERBERIS THUNBERGII | 2 | N | FACU |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 2. | <i>Dryopteris carthusiana</i> | 15 | Y | FACW |
| 3. | <i>Urtica dioica</i> | 2 | N | FAC |
| 4. | BERBERIS THUNBERGII | 5 | N | FACU |
| 5. | <i>Carex lupulina</i> | 2 | N | OBL |
| 6. | <i>Fagus grandifolia</i> | 1 | N | FACU |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 30 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>7</u> | x 1 = | <u>7</u> |
| FACW spp. <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>8</u> | x 4 = | <u>32</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>32</u> (A) | | <u>75</u> (B) |
| Prevalence Index = B/A = | | <u>2.344</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-34 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: P-34W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally Flooded Basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 3 | 20 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-34**

Sample Point **P-34W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Laportea canadensis</i> | 50 | Y | FACW |
| 2. | <i>Urtica dioica</i> | 5 | N | FAC |
| 3. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 4. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 5. | <i>Dryopteris carthusiana</i> | 10 | N | FACW |
| 6. | <i>Carex vulpinoidea</i> | 2 | N | OBL |
| 7. | <i>Carex intumescens</i> | 2 | N | FACW |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 79 | | |

Total Cover = **79**

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Total Cover = **0**

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>7</u> | x 1 = | <u>7</u> |
| FACW spp. <u>62</u> | x 2 = | <u>124</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>79</u> (A) | | <u>166</u> (B) |
| Prevalence Index = B/A = | | <u>2.101</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-35BU |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-35BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland swale |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in an upland swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. According to the Army Corps of Engineers NC/NE Supplement, three parameters are required to meet jurisdictional wetland requirements. Although hydric soil is present at the sample plot, the lack of hydrophytic vegetation and wetland hydrology indicate the sample plot is located in an upland.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 35 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 32 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 16 | 2 | 10YR | 5/4 | 98 | 10YR | 5/6 | 2 | C | M | loamy sand |
| 16 | 35 | 3 | 10YR | 6/3 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: The soil at the sample plot marginally meets the S11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-35BU**

Sample Point **P-35BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 2. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 30 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 4. | <i>Laportea canadensis</i> | 1 | N | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 41 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>16</u> | x 2 = | <u>32</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>65</u> | x 4 = | <u>260</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>81</u> (A) | | <u>292</u> (B) |
| Prevalence Index = B/A = | | <u>3.605</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-35 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-35U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland swale |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 3 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 3 | 24 | 3 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-35**

Sample Point **P-35U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 85 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 15 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>105</u> (A) | <u>420</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Beaches, sandy | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-36 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: P-36BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland swale | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Although hydric soil is present at the sample plot, the lack of hydrophytic vegetation and wetland hydrology indicate the sample plot is located in an upland swale.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 40 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 36 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Beaches, sandy** Series Drainage Class: **moderately well**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 7/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 10 | 40 | 2 | 10YR | 7/1 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the S5 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **P-36** Sample Point **P-36BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 35 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 15 | Y | FACU |
| 2. | <i>Pinus resinosa</i> | 10 | Y | FACU |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Juniperus horizontalis</i> | 50 | Y | FACU |
| 2. | <i>Calamovilfa longifolia</i> | 15 | Y | UPL |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 65 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>110</u> | x 4 = | <u>440</u> |
| UPL spp. | <u>15</u> | x 5 = | <u>75</u> |
| Total | | <u>125</u> (A) | <u>515</u> (B) |
| Prevalence Index = B/A = | | <u>4.120</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-36B | Sample Point: P-36BW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test | |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 20 | 2 | 10YR 7/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-36B**

Sample Point **P-36BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| | | | | |
|------------------------|--|--|--|--|
| Total Cover = 0 | | | | |
|------------------------|--|--|--|--|

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus resinosa</i> | 2 | N | FACU |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Juncus balticus</i> | 40 | Y | OBL |
| 2. | <i>Juniperus horizontalis</i> | 30 | Y | FACU |
| 3. | <i>Equisetum laevigatum</i> | 5 | N | FACW |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 75 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>40</u> | x 1 = | <u>40</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>32</u> | x 4 = | <u>128</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>77</u> (A) | | <u>178</u> (B) |
| Prevalence Index = B/A = | | <u>2.312</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Beaches, sandy | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-36 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-36CU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Beaches, sandy** Series Drainage Class: **moderately well**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 30 | 1 | 10YR | 6/3 | 100 | -- | -- | -- | -- | sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-36**

Sample Point **P-36CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Juniperus horizontalis</i> | 25 | Y | FACU |
| 2. | <i>Schizachyrium scoparium</i> | 5 | N | FACU |
| 3. | <i>Calamovilfa longifolia</i> | 15 | Y | UPL |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 45 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. <u>15</u> | x 5 = | <u>75</u> |
| Total <u>45</u> (A) | | 195 (B) |
| Prevalence Index = B/A = | | <u>4.333</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Beaches, sandy | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-36C | Sample Point: P-36CW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Beaches, sandy** Series Drainage Class: **moderately well**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 20 | 2 | 7.5YR | 7/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-36C**

Sample Point **P-36CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Juncus balticus</i> | 75 | Y | OBL |
| 2. | <i>Juniperus horizontalis</i> | 5 | N | FACU |
| 3. | <i>Solidago speciosa</i> | 5 | N | UPL |
| 4. | <i>Calamovilfa longifolia</i> | 2 | N | UPL |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 87 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>75</u> | x 1 = | <u>75</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>7</u> | x 5 = | <u>35</u> |
| Total <u>87</u> (A) | | <u>130</u> (B) |
| Prevalence Index = B/A = | | <u>1.494</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-36 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: P-36U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland ridge | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 20 | 1 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-36**

Sample Point **P-36U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus banksiana</i> | 5 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 5 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Schizachyrium scoparium</i> | 20 | Y | FACU |
| 2. | <i>Juniperus horizontalis</i> | 15 | Y | FACU |
| 3. | <i>Calamovilfa longifolia</i> | 15 | Y | UPL |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 50 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>45</u> | x 4 = | <u>180</u> |
| UPL spp. <u>15</u> | x 5 = | <u>75</u> |
| Total <u>60</u> (A) | | <u>255</u> (B) |
| Prevalence Index = B/A = | | <u>4.250</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-36 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-36W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Although hydrophytic vegetation is not present at the sample plot, the presence of hydric soils and wetland hydrology indicate the sample plot is located in a seasonally flooded basin.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 1 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 1 | 20 | 2 | 10YR | 7/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-36**

Sample Point **P-36W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Juncus balticus</i> | 10 | N | OBL |
| 2. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 3. | <i>Calamagrostis canadensis</i> | 15 | N | OBL |
| 4. | <i>Euthamia graminifolia</i> | 2 | N | FAC |
| 5. | <i>Salix lucida</i> | 5 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 92 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>60</u> | x 5 = | <u>300</u> |
| Total <u>92</u> (A) | | <u>341</u> (B) |
| Prevalence Index = B/A = | | <u>3.707</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral vegetation mostly likely dominate this seasonally flooded basin in early growing season.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-37 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-37U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland swale |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-37**

Sample Point **P-37U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 65 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Bromus pubescens</i> | 10 | Y | FACU |
| 2. | <i>Maianthemum stellatum</i> | 2 | N | FAC |
| 3. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 14 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------------|----------------|
| <u>Total % Cover of:</u> | | <u>Multiply by:</u> | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>4</u> | x 3 = | <u>12</u> |
| FACU spp. | <u>85</u> | x 4 = | <u>340</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>89</u> (A) | <u>352</u> (B) |
| Prevalence Index = B/A = | | <u>3.955</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-37 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-37W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Primary indicator of saturation (10 in.) was found in May field investigation. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|----|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | loamy sand | |
| 3 | 20 | 2 | 10YR | 5/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-37**

Sample Point **P-37W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----|---|------|
| 1. | <i>Calamagrostis canadensis</i> | 65 | Y | OBL |
| 2. | <i>Urtica dioica</i> | 2 | N | FAC |
| 3. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 4. | <i>Impatiens capensis</i> | 2 | N | FACW |
| 5. | BERBERIS THUNBERGII | 2 | N | FACU |
| 6. | <i>Osmundastrum cinnamomeum</i> | 5 | N | FACW |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 86 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>65</u> | x 1 = | <u>65</u> |
| FACW spp. <u>32</u> | x 2 = | <u>64</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>101</u> (A) | | <u>143</u> (B) |
| Prevalence Index = B/A = | | <u>1.416</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-38U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-38U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course** Wetland ID: **P-38U** Sample Point **P-38U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 15 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 10 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

Total Cover = 30

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 25 | Y | FACU |
| 2. | <i>Celtis occidentalis</i> | 5 | N | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

Total Cover = 30

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>POA PRATENSIS</i> | 40 | Y | FACU |
| 2. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 3. | <i>CIRSIIUM ARVENSE</i> | 10 | N | FACU |
| 4. | <i>Carex pensylvanica</i> | 35 | Y | UPL |
| 5. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 95 | | |

Total Cover = 95

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Total Cover = 0

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------|--------------|------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. <u>35</u> | x 5 = | <u>175</u> |

Total 155 (A) 630 (B)

Prevalence Index = B/A = 4.065

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-38 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-38W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 20 | 2 | 10YR | 6/2 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-38**

Sample Point **P-38W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 35 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Symphyotrichum ontarionis</i> | 5 | N | FAC |
| 2. | <i>Calamagrostis canadensis</i> | 65 | Y | OBL |
| 3. | <i>Onoclea sensibilis</i> | 10 | N | FACW |
| 4. | <i>Lycopus uniflorus</i> | 30 | Y | OBL |
| 5. | <i>Urtica dioica</i> | 10 | N | FAC |
| 6. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 125 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>95</u> | x 1 = | <u>95</u> |
| FACW spp. <u>60</u> | x 2 = | <u>120</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>170</u> (A) | | <u>260</u> (B) |
| Prevalence Index = B/A = | | <u>1.529</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-39U | Sample Point: P-39U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 14 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 14 | 20 | 3 | 10YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-39U**

Sample Point **P-39U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 35 | Y | FACU |
| 2. | <i>Pinus resinosa</i> | 30 | Y | FACU |
| 3. | <i>Pinus strobus</i> | 10 | N | FACU |
| 4. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Schizachne purpurascens</i> | 10 | Y | FACU |
| 2. | <i>Eurybia macrophylla</i> | 2 | Y | UPL |
| 3. | <i>LONICERA X BELLA</i> | 15 | Y | FACU |
| 4. | <i>Acer spicatum</i> | 2 | N | FACU |
| 5. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 6. | <i>Pinus resinosa</i> | 5 | N | FACU |
| 7. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 8. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 9. | <i>Carex pensylvanica</i> | 5 | N | UPL |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 48 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>12</u> | x 2 = | <u>24</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>124</u> | x 4 = | <u>496</u> |
| UPL spp. <u>7</u> | x 5 = | <u>35</u> |
| Total <u>148</u> (A) | | <u>570</u> (B) |
| Prevalence Index = B/A = | | <u>3.851</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Datum: N/A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Wetland ID: P-39 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Section: 14 | |
| Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. | | | Community ID: Seasonally Flooded Basin |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >22 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (18 inches) and saturation (12 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 15 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 15 | 24 | 3 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | sandy loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-39**

Sample Point **P-39W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 65 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 65 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 15 | Y | OBL |
| 2. | <i>Symplocarpus foetidus</i> | 5 | N | OBL |
| 3. | GLECHOMA HEDERACEA | 2 | N | FACU |
| 4. | <i>Toxicodendron radicans</i> | 2 | N | FAC |
| 5. | ALLIARIA PETIOLATA | 5 | N | FACU |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 29 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. <u>65</u> | x 2 = | <u>130</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>7</u> | x 4 = | <u>28</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>94</u> (A) | | <u>184</u> (B) |
| Prevalence Index = B/A = | | <u>1.957</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-40B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-40BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy muck mineral |
| 3 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40B**

Sample Point **P-40BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex stricta</i> | 65 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 15 | N | OBL |
| 3. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 4. | <i>Thelypteris palustris</i> | 2 | N | FACW |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 87 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------------|
| OBL spp. <u>85</u> | x 1 = | <u>85</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>87</u> (A) | | <u>89</u> (B) |
| Prevalence Index = B/A = | | <u>1.023</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-40C |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-40CW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 6 | 20 | 2 | 10YR | 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40C**

Sample Point **P-40CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 30 | Y | OBL |
| 2. | <i>Carex stricta</i> | 65 | Y | OBL |
| 3. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 4. | <i>Symphotrichum ontarionis</i> | 5 | N | FAC |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>100</u> | x 1 = | <u>100</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>105</u> (A) | | <u>115</u> (B) |
| Prevalence Index = B/A = | | <u>1.095</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-40D |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-40DW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 1 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 1 | 20 | 2 | 10YR | 7/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40D**

Sample Point **P-40DW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 5 | Y | FACU |
| 2. | <i>Betula papyrifera</i> | 5 | Y | FACU |
| 3. | <i>Pinus resinosa</i> | 5 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|---|------|
| 1. | <i>Calamagrostis canadensis</i> | 50 | Y | OBL |
| 2. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 3. | <i>Juncus balticus</i> | 30 | Y | OBL |
| 4. | <i>Calamagrostis canadensis</i> | 2 | N | OBL |
| 5. | <i>Calamovilfa longifolia</i> | 5 | N | UPL |
| 6. | <i>Euthamia graminifolia</i> | 5 | N | FAC |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 102 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>82</u> | x 1 = | <u>82</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>15</u> | x 4 = | <u>60</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>117</u> (A) | | <u>202</u> (B) |
| Prevalence Index = B/A = | | <u>1.726</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Hydrophytic vegetation not dominant based on 50/20 rule however prevalence index is 1.726. Based on presence of hydric soils, observed dry season water table, other hydrology indicators, and prevalence of OBL plant species, area was identified as wetland. It is likely that spring ephemeral wetland plant species are present earlier in the growing season.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-40E | Sample Point: P-40EW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated intertidal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgement. Based on landscape position, hydric soils present, and the timing of the delineation, this area appears it may be inundated or saturated for longer periods of time during the early growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >26 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 26 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 1 | 1 | 10YR | 3/1 | 100 | 10YR | 5/6 | 5 | C | M | sandy loam |
| 1 | 26 | 2 | 10YR | 7/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, S1 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40E**

Sample Point **P-40EW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus resinosa</i> | 5 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| | | | | |
|-----------------|--|--|--|--|
| Total Cover = 5 | | | | |
|-----------------|--|--|--|--|

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----|----|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|----|----|------|
| 1. | <i>Juncus balticus</i> | 20 | Y | OBL |
| 2. | <i>Juniperus horizontalis</i> | 5 | N | FACU |
| 3. | <i>Calamovilfa longifolia</i> | 30 | Y | UPL |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|----|----|----|----|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>10</u> | x 4 = | <u>40</u> |
| UPL spp. <u>30</u> | x 5 = | <u>150</u> |
| Total <u>60</u> (A) | | <u>210</u> (B) |
| Prevalence Index = B/A = | | <u>3.500</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely would be observed within the seasonally flooded basin in early growing season.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-40F | Sample Point: P-40FW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated intertidal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgment. Based on landscape position, hydric soils present, and the timing of the delineation, this area appears it may be inundated or saturated for longer periods of time during the early growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input checked="" type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 30 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 26 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 1 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 1 | 24 | 2 | 10YR | 7/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40F**

Sample Point **P-40FW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula papyrifera</i> | 15 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 15 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 2 | N | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Juncus balticus</i> | 30 | Y | OBL |
| 2. | <i>Juniperus communis</i> | 30 | Y | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 4. | <i>Juniperus horizontalis</i> | 5 | N | FACU |
| 5. | <i>Solidago speciosa</i> | 5 | N | UPL |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 75 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|---------------|----------------|
| OBL spp. | <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>57</u> | x 4 = | <u>228</u> |
| UPL spp. | <u>5</u> | x 5 = | <u>25</u> |
| Total | | <u>92</u> (A) | <u>283</u> (B) |
| Prevalence Index = B/A = | | <u>3.076</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly I kely dominate the seasonally flooded basin in early growing season.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-40U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-40U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40U**

Sample Point **P-40U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Betula alleghaniensis</i> | 30 | Y | FAC |
| 2. | <i>Pinus resinosa</i> | 25 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 65 | Y | UPL |
| 2. | <i>Calamagrostis canadensis</i> | 25 | Y | OBL |
| 3. | <i>CIRSIIUM ARVENSE</i> | 5 | N | FACU |
| 4. | <i>Acer rubrum</i> | 2 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 97 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>32</u> | x 3 = | <u>96</u> |
| FACU spp. <u>45</u> | x 4 = | <u>180</u> |
| UPL spp. <u>65</u> | x 5 = | <u>325</u> |
| Total <u>167</u> (A) | | <u>626</u> (B) |
| Prevalence Index = B/A = | | <u>3.749</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-40 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-40W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary: | Secondary: |
| <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input checked="" type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |
| | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: surface (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 10 | 2 | 10YR | 7/1 | 100 | -- | -- | -- | -- | loamy sand |
| 10 | 20 | 3 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | Indicators for Problematic Soils¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-40**

Sample Point **P-40W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 35 | Y | FACW |
| 2. | <i>Urtica dioica</i> | 5 | N | FAC |
| 3. | <i>Lycopus uniflorus</i> | 30 | Y | OBL |
| 4. | <i>Carex intumescens</i> | 5 | N | FACW |
| 5. | <i>Calamagrostis canadensis</i> | 15 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>45</u> | x 1 = | <u>45</u> |
| FACW spp. <u>75</u> | x 2 = | <u>150</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>125</u> | (A) | <u>210</u> (B) |
| Prevalence Index = B/A = | | <u>1.680</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-41 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-41W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Primary:</u> | <u>Secondary:</u> |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 20 | 2 | 10YR 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-41**

Sample Point **P-41W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 35 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 35 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Urtica dioica</i> | 15 | N | FAC |
| 2. | <i>Carex intumescens</i> | 5 | N | FACW |
| 3. | <i>Calamagrostis canadensis</i> | 40 | Y | OBL |
| 4. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 5. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 6. | <i>Viola palmata</i> | 2 | N | FACU |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 77 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>40</u> | x 1 = | <u>40</u> |
| FACW spp. <u>40</u> | x 2 = | <u>80</u> |
| FAC spp. <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. <u>7</u> | x 4 = | <u>28</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>112</u> (A) | | <u>223</u> (B) |
| Prevalence Index = B/A = | | <u>1.991</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-42U | Sample Point: P-42U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 16 | 2 | 10YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| 16 | 20 | 3 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-42U**

Sample Point **P-42U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 10 | Y | FACU |
| 2. | <i>Pinus resinosa</i> | 35 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 45 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 55 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 70 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 15 | N | FAC |
| 3. | <i>Pinus resinosa</i> | 2 | N | FACU |
| 4. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 92 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>102</u> | x 4 = | <u>408</u> |
| UPL spp. <u>70</u> | x 5 = | <u>350</u> |
| Total <u>192</u> (A) | | <u>808</u> (B) |
| Prevalence Index = B/A = | | <u>4.208</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-42 | Sample Point: P-42W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Primary indicators of high water table (10 in.) and saturation (6 in.) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 20 | 2 | 10YR 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-42**

Sample Point **P-42W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 60 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 75 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Urtica dioica</i> | 40 | Y | FAC |
| 2. | <i>Calamagrostis canadensis</i> | 20 | Y | OBL |
| 3. | <i>Rubus idaeus var. strigosus</i> | 15 | N | FAC |
| 4. | <i>Viola palmata</i> | 2 | N | FACU |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 77 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. 20 | x 1 = | 20 |
| FACW spp. 60 | x 2 = | 120 |
| FAC spp. 55 | x 3 = | 165 |
| FACU spp. 17 | x 4 = | 68 |
| UPL spp. 0 | x 5 = | 0 |
| Total 152 (A) | | 373 (B) |
| Prevalence Index = B/A = | | 2.454 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-43 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-43W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 0.85 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 20 | 2 | 10YR 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-43**

Sample Point **P-43W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 25 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 55 | Y | OBL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 20 | Y | FAC |
| 3. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 4. | <i>Viola palmata</i> | 2 | N | FACU |
| 5. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 6. | <i>Linnaea borealis</i> | 2 | N | FAC |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 94 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>65</u> | x 1 = | <u>65</u> |
| FACW spp. <u>30</u> | x 2 = | <u>60</u> |
| FAC spp. <u>22</u> | x 3 = | <u>66</u> |
| FACU spp. <u>7</u> | x 4 = | <u>28</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>124</u> (A) | | <u>219</u> (B) |
| Prevalence Index = B/A = | | <u>1.766</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-44 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: P-44AU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland ridge | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 3/8 | 100 | -- | -- | -- | -- | sandy loam | |
| 2 | 20 | 2 | 7.5YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand | |
| 20 | 24 | 3 | 7.5YR | 6/3 | 90 | 7.5YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-44**

Sample Point **P-44AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 45 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 10 | N | FACU |
| 3. | <i>Pinus resinosa</i> | 10 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 3. | <i>Acer saccharum</i> | 2 | N | FACU |
| 4. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 54 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. | <u>74</u> | x 4 = | <u>296</u> |
| UPL spp. | <u>40</u> | x 5 = | <u>200</u> |
| Total | | <u>124</u> (A) | <u>526</u> (B) |
| Prevalence Index = B/A = | | <u>4.242</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-44A | Sample Point: P-44AW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland. No primary indicators were found during Excel Engineering's field investigation in May.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 15 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 15 | 20 | 3 | 10YR | 6/1 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-44A**

Sample Point **P-44AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 55 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 50 | Y | OBL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 35 | Y | FAC |
| 3. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 4. | <i>BERBERIS THUNBERGII</i> | 10 | N | FACU |
| 5. | <i>Lycopus uniflorus</i> | 2 | N | OBL |
| 6. | <i>Dryopteris carthusiana</i> | 5 | N | FACW |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 107 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>52</u> | x 1 = | <u>52</u> |
| FACW spp. <u>65</u> | x 2 = | <u>130</u> |
| FAC spp. <u>35</u> | x 3 = | <u>105</u> |
| FACU spp. <u>15</u> | x 4 = | <u>60</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>167</u> | (A) | <u>347</u> (B) |
| Prevalence Index = B/A = | | <u>2.078</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-44 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-44BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C5 - Saturation Visible on Aerial Imagery <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 10 | 2 | 7.5YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 10 | 20 | 3 | 7.5YR | 6/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-44**

Sample Point **P.44BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 85 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 5 | N | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>50</u> | x 4 = | <u>200</u> |
| UPL spp. <u>85</u> | x 5 = | <u>425</u> |
| Total <u>140</u> (A) | | <u>640</u> (B) |
| Prevalence Index = B/A = | | <u>4.571</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-44B | Sample Point: P-44BW |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 26 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 23 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 4 | 8 | 2 | 10YR | 7/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 8 | 26 | 3 | 10YR | 5/2 | 90 | 10YR | 4/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course** Wetland ID: **P-44B** Sample Point **P-44BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|---|------|
| 1. | <i>Calamagrostis canadensis</i> | 65 | Y | OBL |
| 2. | <i>RUBUS IDAEUS VAR. IDAEUS</i> | 25 | Y | FAC |
| 3. | <i>Onoclea sensibilis</i> | 10 | N | FACW |
| 4. | <i>Urtica dioica</i> | 5 | N | FAC |
| 5. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 110 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>65</u> | x 1 = | <u>65</u> |
| FACW spp. | <u>45</u> | x 2 = | <u>90</u> |
| FAC spp. | <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. | <u>25</u> | x 4 = | <u>100</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>165</u> (A) | <u>345</u> (B) |
| Prevalence Index = B/A = | | <u>2.091</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/19/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-45 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-45W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 1.13 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 20 | 2 | 10YR 6/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-45**

Sample Point **P-45W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 35 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----|---|------|
| 1. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 2. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 3. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 4. | <i>Onoclea sensibilis</i> | 5 | N | FACW |
| 5. | <i>Carex intumescens</i> | 15 | Y | FACW |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 65 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>55</u> | x 2 = | <u>110</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>20</u> | x 4 = | <u>80</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>100</u> (A) | | <u>215</u> (B) |
| Prevalence Index = B/A = | | <u>2.150</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-46 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-46U |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 20 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-46**

Sample Point **P-46U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 15 | N | FACU |
| 2. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 30 | Y | FACU |
| 4. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW |
| 5. | <i>Acer saccharum</i> | 10 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 2 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 22 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 75 | Y | UPL |
| 2. | <i>Acer saccharum</i> | 5 | N | FACU |
| 3. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 85 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>12</u> | x 2 = | <u>24</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. <u>75</u> | x 5 = | <u>375</u> |
| Total <u>192</u> (A) | | 819 (B) |
| Prevalence Index = B/A = | | <u>4.266</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-46 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-46W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally flooded basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 3 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 20 | 2 | 10YR 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-46**

Sample Point **P-46W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 5 | Y | FACW |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 35 | Y | OBL |
| 2. | <i>Carex stricta</i> | 35 | Y | OBL |
| 3. | <i>Urtica dioica</i> | 5 | N | FAC |
| 4. | <i>Dryopteris carthusiana</i> | 15 | N | FACW |
| 5. | <i>Lycopus uniflorus</i> | 10 | N | OBL |
| 6. | <i>Symphytichum ontarionis</i> | 10 | N | FAC |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 110 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. 80 | x 1 = | 80 |
| FACW spp. 20 | x 2 = | 40 |
| FAC spp. 15 | x 3 = | 45 |
| FACU spp. 0 | x 4 = | 0 |
| UPL spp. 0 | x 5 = | 0 |
| Total 115 (A) | | 165 (B) |
| Prevalence Index = B/A = | | 1.435 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Chuck Herrmann | | Investigator #2: Chuck Herrmann | | State: Wisconsin |
| Soil Unit: Dune land | NW1/WW1 Classification: N/A | | | Wetland ID: P-47 |
| Landform: Depression | Local Relief: Concave | | Datum: N/A | Sample Point: P-47W |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Seasonally flooded basin | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Township: 14 N | | |
| | | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 2 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|---------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 20 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | organic |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-47**

Sample Point **P-47W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex stricta</i> | 65 | Y | OBL |
| 2. | <i>Juncus effusus</i> | 20 | N | OBL |
| 3. | <i>Mentha arvensis</i> | 5 | N | FACW |
| 4. | <i>Urtica dioica</i> | 5 | N | FAC |
| 5. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>95</u> | x 1 = | <u>95</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>105</u> (A) | | <u>120</u> (B) |
| Prevalence Index = B/A = | | <u>1.143</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-48 | Sample Point: P-48U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary: | Secondary: |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 14 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 14 | 20 | 3 | 10YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-48**

Sample Point **P-48U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 60 | Y | FACU |
| 2. | <i>Betula alleghaniensis</i> | 15 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 85 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 15 | N | FAC |
| 3. | <i>Toxicodendron radicans</i> | 2 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 77 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>32</u> | x 3 = | <u>96</u> |
| FACU spp. <u>145</u> | x 4 = | <u>580</u> |
| UPL spp. <u>60</u> | x 5 = | <u>300</u> |
| Total <u>237</u> (A) | | <u>976</u> (B) |
| Prevalence Index = B/A = | | <u>4.118</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Dune land | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-48 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-48W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally flooded basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 13 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 20 | 2 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-48**

Sample Point **P-48W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 25 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex stricta</i> | 65 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 3. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 4. | <i>Oxyclea sensibilis</i> | 5 | N | FACW |
| 5. | <i>Alnus incana</i> | 5 | N | FACW |
| 6. | <i>Mentha arvensis</i> | 2 | N | FACW |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 92 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>80</u> | x 1 = | <u>80</u> |
| FACW spp. <u>57</u> | x 2 = | <u>114</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>137</u> (A) | | <u>194</u> (B) |
| Prevalence Index = B/A = | | <u>1.416</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-49 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 | Sample Point: P-49W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Seasonally flooded basin | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |
| Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 1 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 4 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 20 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | organic |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-49**

Sample Point **P-49W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----|---|------|
| 1. | <i>Lemna minor</i> | 80 | Y | OBL |
| 2. | <i>Cicuta maculata</i> | 25 | N | OBL |
| 3. | <i>Calamagrostis canadensis</i> | 15 | N | OBL |
| 4. | <i>Ranunculus hispidus</i> | 2 | N | FAC |
| 5. | <i>Mentha arvensis</i> | 2 | N | FACW |
| 6. | <i>PHALARIS ARUNDINACEA</i> | 5 | N | FACW |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 129 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>120</u> | x 1 = | <u>120</u> |
| FACW spp. <u>27</u> | x 2 = | <u>54</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>149</u> (A) | | <u>180</u> (B) |
| Prevalence Index = B/A = | | <u>1.208</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-51 | Sample Point: P-51U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Upland ridge | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 3 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 3 | 12 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 20 | 4 | 10YR | 6/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-51**

Sample Point **P-51U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 45 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 60 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Carex pensylvanica</i> | 85 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 10 | N | FAC |
| 3. | <i>Elymus canadensis</i> | 5 | N | FACU |
| 4. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 102 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. | <u>72</u> | x 4 = | <u>288</u> |
| UPL spp. | <u>85</u> | x 5 = | <u>425</u> |
| Total | | <u>167</u> (A) | <u>743</u> (B) |
| Prevalence Index = B/A = | | <u>4.449</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Chuck Herrmann | NWI/WWI Classification: T3/E2K | State: Wisconsin |
| Soil Unit: Dune land | Local Relief: Concave | Wetland ID: P-51 |
| Landform: Depression | Latitude: N/A Longitude: N/A Datum: N/A | Sample Point: P-51W |
| Slope (%): 0-2 | | Community ID: Seasonally flooded basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Dune land** Series Drainage Class: **well to excessively**

Taxonomy (Subgroup): **NA**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky sand |
| 3 | 8 | 2 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam |
| 8 | 20 | 3 | 10YR | 5/1 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and S1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-51**

Sample Point **P-51W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 35 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopus uniflorus</i> | 10 | Y | OBL |
| 2. | <i>Impatiens capensis</i> | 2 | N | FACW |
| 3. | <i>Dryopteris carthusiana</i> | 5 | N | FACW |
| 4. | <i>Laportea canadensis</i> | 15 | Y | FACW |
| 5. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 6. | <i>Galium triflorum</i> | 2 | N | FACU |
| 7. | <i>Scutellaria galericulata</i> | 2 | N | OBL |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 41 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>17</u> | x 1 = | <u>17</u> |
| FACW spp. <u>72</u> | x 2 = | <u>144</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>91</u> (A) | | <u>169</u> (B) |
| Prevalence Index = B/A = | | <u>1.857</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-52W | Sample Point: P-52W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Community ID: Seasonally flooded basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated intertidal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgement. Based on landscape position, hydric soils present, and the timing of the delineation, this area appears it may be inundated or saturated for longer periods of time during the early growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology. Field observations of high water table (18 inches) and saturation (14 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | 10YR | 5/6 | 5 | C | M | sandy loam |
| 4 | 20 | 2 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-52W**

Sample Point **P-52W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Urtica dioica</i> | 30 | Y | FAC |
| 2. | <i>Calamagrostis canadensis</i> | 2 | N | OBL |
| 3. | <i>BERBERIS THUNBERGII</i> | 40 | Y | FACU |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 72 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>2</u> | x 1 = | <u>2</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. <u>40</u> | x 4 = | <u>160</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>72</u> (A) | | <u>252</u> (B) |
| Prevalence Index = B/A = | | <u>3.500</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely occur within the seasonally flooded basin in early growing season. Berberis also seems to dominate in both wetland and upland areas within this portion of the site.

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Chuck Herrmann |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-53W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-53W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: Seasonally flooded basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated intertidal swale. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgement. Based on landscape position, wetland hydrology, hydric soils present, and the timing of the delineation, this area appears it may be inundated or saturated for longer periods of time during the early growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 1 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (18 inches) and saturation (14 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 2 | 20 | 2 | 10YR | 5/2 | 97 | 10YR | 5/6 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
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NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-53W**

Sample Point **P-53W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 2. | <i>Carex blanda</i> | 2 | N | FAC |
| 3. | <i>Carex pensylvanica</i> | 5 | Y | UPL |
| 4. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 14 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>7</u> | x 4 = | <u>28</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>24</u> (A) | | <u>79</u> (B) |
| Prevalence Index = B/A = | | <u>3.292</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely are present within the seasonally flooded basin in early growing season.

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Terrace | | Local Relief: Linear | | Wetland ID: P-54 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-54U |
| | | Longitude: N/A | | Community ID: Upland forest |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loamy sand |
| 4 | 16 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 16 | 20 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-54**

Sample Point **P-54U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 5 | N | FACU |
| 3. | <i>Acer saccharum</i> | 25 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 2 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = 7 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|-------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopodium digitatum</i> | 20 | Y | UPL |
| 2. | <i>Carex pensylvanica</i> | 70 | Y | UPL |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| | | Total Cover = 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| | | Total Cover = 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>77</u> | x 4 = | <u>308</u> |
| UPL spp. <u>90</u> | x 5 = | <u>450</u> |
| Total <u>167</u> (A) | | <u>758</u> (B) |
| Prevalence Index = B/A = | | <u>4.539</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-54 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-54W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|----|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | loam |
| 4 | 14 | 2 | 10YR | 4/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| 14 | 20 | 3 | 10YR | 5/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-54**

Sample Point **P-54W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Glyceria striata</i> | 90 | Y | OBL |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>90</u> | x 1 = | <u>90</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>90</u> (A) | | <u>90</u> (B) |
| Prevalence Index = B/A = | | <u>1.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 09/30/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Chuck Herrmann | | Soil Unit: Granby loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-55W |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-55W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally flooded basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were drier than normal. 0.18 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 26 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (18 inches) and saturation (14 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 2 | 8 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| 8 | 20 | 3 | 10YR | 4/1 | 100 | -- | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-55W**

Sample Point **P-55W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 25 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----|---|------|
| 1. | <i>Carex aquatilis</i> | 10 | N | OBL |
| 2. | <i>Dryopteris carthusiana</i> | 10 | N | FACW |
| 3. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 4. | <i>BERBERIS THUNBERGII</i> | 35 | Y | FACU |
| 5. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 70 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>35</u> | x 2 = | <u>70</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>35</u> | x 4 = | <u>140</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>95</u> (A) | | <u>235</u> (B) |
| Prevalence Index = B/A = | | <u>2.474</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-56 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-56U |
| | | Longitude: N/A | | Community ID: Upland swale |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in an upland swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 12 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 12 | 26 | 3 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks:

Project/Site: **Kohler Golf Course**

Wetland ID: **P-56**

Sample Point **P-56U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Dryopteris carthusiana</i> | 5 | Y | FACW |
| 2. | <i>Lycopodium digitatum</i> | 5 | Y | UPL |
| 3. | <i>Elymus virginicus</i> | 2 | N | FACW |
| 4. | <i>Pinus strobus</i> | 2 | N | FACU |
| 5. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 16 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>7</u> | x 2 = | <u>14</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>4</u> | x 4 = | <u>16</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>16</u> (A) | | <u>55</u> (B) |
| Prevalence Index = B/A = | | <u>3.438</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-57 | Sample Point: P-57U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 7 | 2 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| 7 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-57**

Sample Point **P-57U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 30 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 30 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 60 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopodium digitatum</i> | 50 | Y | UPL |
| 2. | <i>Pinus strobus</i> | 2 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 52 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>72</u> | x 4 = | <u>288</u> |
| UPL spp. <u>50</u> | x 5 = | <u>250</u> |
| Total <u>122</u> (A) | | <u>538</u> (B) |
| Prevalence Index = B/A = | | <u>4.410</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-57 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-57W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated intertidal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Using best professional judgment this area is a wetland, as both hydrology and soils meet wetland classification. Even when vegetation does not meet classification at this specific time during the growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 26 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam | |
| 3 | 12 | 2 | 10YR | 5/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| 12 | 26 | 3 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot meets the A11, S11, and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-57**

Sample Point **P-57W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 0 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NA (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------|--------------|----------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |

Total 0 (A) 0 (B)

Prevalence Index = B/A = NA

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Unvegetated concave surface. No vegetation present within depression. Likely a result of dense leaf litter, shading, time of year, and/or recent ponding.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-58 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-58W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 17 | 2 | 10YR | 4/1 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| 17 | 24 | 3 | 10YR | 5/2 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-58**

Sample Point **P-58W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 30 | Y | OBL |
| 2. | <i>Pinus strobus</i> | 2 | N | FACU |
| 3. | <i>Carex intumescens</i> | 5 | N | FACW |
| 4. | <i>Carex pensylvanica</i> | 20 | Y | UPL |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 57 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>20</u> | x 5 = | <u>100</u> |
| Total <u>57</u> (A) | | <u>148</u> (B) |
| Prevalence Index = B/A = | | <u>2.596</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the prevalence index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-59 | Sample Point: P-59U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 4 | 2 | 10YR | 5/5 | 100 | -- | -- | -- | -- | loamy sand |
| 4 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-59**

Sample Point **P-59U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 10 | N | FACU |
| 2. | <i>Acer saccharum</i> | 60 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 90 | Y | UPL |
| 2. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 94 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>75</u> | x 4 = | <u>300</u> |
| UPL spp. <u>90</u> | x 5 = | <u>450</u> |
| Total <u>169</u> (A) | | <u>760</u> (B) |
| Prevalence Index = B/A = | | <u>4.497</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-59 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-59W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 3 | 6 | 2 | 10YR | 3/1 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| 6 | 18 | 3 | 10YR | 4/1 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-59**

Sample Point **P-59W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Glyceria striata</i> | 30 | Y | OBL |
| 2. | <i>Carex intumescens</i> | 20 | Y | FACW |
| 3. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. <u>25</u> | x 2 = | <u>50</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>55</u> (A) | | <u>80</u> (B) |
| Prevalence Index = B/A = | | <u>1.455</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-60 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-60W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 4 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 2 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 5 | 8 | 2 | 10YR | 3/1 | 97 | 10YR | 4/4 | 3 | C | M | sandy loam |
| 8 | 18 | 3 | 10YR | 4/2 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11 and F1 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-60**

Sample Point **P-60W**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---------------|---------------------------------|-----------|---|------|
| 1. | <i>Lycopus uniflorus</i> | 30 | Y | OBL |
| 2. | <i>Calamagrostis canadensis</i> | 15 | Y | OBL |
| 3. | <i>Carex intumescens</i> | 10 | N | FACW |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 55 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|---------------|
| OBL spp. 45 | x 1 = | 45 |
| FACW spp. 10 | x 2 = | 20 |
| FAC spp. 0 | x 3 = | 0 |
| FACU spp. 0 | x 4 = | 0 |
| UPL spp. 0 | x 5 = | 0 |
| Total 55 (A) | | 65 (B) |
| Prevalence Index = B/A = | | 1.182 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-61 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-61W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 12 | 2 | 10YR | 4/2 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| 12 | 24 | 3 | 10YR | 4/3 | 98 | 10YR | 4/4 | 2 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-61**

Sample Point **P-61W**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------------------|-----------|----------|-------------|
| 1. | <i>Urtica dioica</i> | 2 | N | FAC |
| 2. | <i>Elymus virginicus</i> | 2 | N | FACW |
| 3. | <i>Quercus rubra</i> | 2 | N | FACU |
| 4. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 21 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>21</u> (A) | | <u>33</u> (B) |
| Prevalence Index = B/A = | | <u>1.571</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Side slope | | NW1/WWI Classification: N/A | | Wetland ID: P-62 |
| Slope (%): 2-6 | | Local Relief: Linear | | Sample Point: P-62U |
| Latitude: N/A | | Longitude: N/A | | Community ID: Upland ridge |
| Datum: N/A | | Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary: | Secondary: |
| <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 5 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 5 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-62**

Sample Point **P-62U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 25 | Y | FACU |
| 2. | <i>Quercus rubra</i> | 20 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 25 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 80 | Y | UPL |
| 2. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 82 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>75</u> | x 4 = | <u>300</u> |
| UPL spp. <u>80</u> | x 5 = | <u>400</u> |
| Total <u>157</u> (A) | | <u>704</u> (B) |
| Prevalence Index = B/A = | | <u>4.484</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-62 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-62W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 17 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Primary indicators of high water table (2 in.) and saturation (surface) were found in May field investigation. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | silt loam |
| 3 | 12 | 2 | 10YR | 5/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| 12 | 26 | 3 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-62**

Sample Point **P-62W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Glyceria striata</i> | 10 | Y | OBL |
| 2. | <i>Onoclea sensibilis</i> | 5 | Y | FACW |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | <i>Elymus virginicus</i> | 5 | Y | FACW |
| 5. | <i>Urtica dioica</i> | 2 | N | FAC |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 24 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|---------------|
| OBL spp. 10 | x 1 = | 10 |
| FACW spp. 12 | x 2 = | 24 |
| FAC spp. 2 | x 3 = | 6 |
| FACU spp. 0 | x 4 = | 0 |
| UPL spp. 0 | x 5 = | 0 |
| Total 24 (A) | | 40 (B) |
| Prevalence Index = B/A = | | 1.667 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-64 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-64W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 15 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 3 | 7 | 2 | 10YR | 4/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 7 | 18 | 3 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-64**

Sample Point **P-64W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 15 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 3. | <i>Carex pensylvanica</i> | 5 | N | UPL |
| 4. | <i>Carex intumescens</i> | 5 | N | FACW |
| 5. | <i>Urtica dioica</i> | 2 | N | FAC |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 42 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>42</u> (A) | | <u>71</u> (B) |
| Prevalence Index = B/A = | | <u>1.690</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Terrace | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-65 | Sample Point: P-65U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 6 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-65**

Sample Point **P-65U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 10 | N | FACU |
| 2. | <i>Acer saccharum</i> | 60 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 70 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 15 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 15 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 90 | Y | UPL |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 90 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>85</u> | x 4 = | <u>340</u> |
| UPL spp. <u>90</u> | x 5 = | <u>450</u> |
| Total <u>175</u> (A) | | <u>790</u> (B) |
| Prevalence Index = B/A = | | <u>4.514</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-65 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-65W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 13 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 8 | 2 | 10YR | 4/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 8 | 18 | 3 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-65**

Sample Point **P-65W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 30 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 2 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex intumescens</i> | 5 | Y | FACW |
| 2. | <i>Elymus virginicus</i> | 5 | Y | FACW |
| 3. | <i>Juncus tenuis</i> | 2 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 12 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>40</u> | x 2 = | <u>80</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>44</u> (A) | | <u>94</u> (B) |
| Prevalence Index = B/A = | | <u>2.136</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-66 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-66W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 13 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 3 | 5 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 5 | 18 | 3 | 10YR | 5/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11 and S5 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-66**

Sample Point **P-66W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Urtica dioica</i> | 15 | Y | FAC |
| 2. | <i>Carex intumescens</i> | 2 | N | FACW |
| 3. | <i>Glyceria striata</i> | 2 | N | OBL |
| 4. | <i>Lycopus uniflorus</i> | 2 | N | OBL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 21 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>4</u> | x 1 = | <u>4</u> |
| FACW spp. <u>12</u> | x 2 = | <u>24</u> |
| FAC spp. <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>31</u> (A) | | <u>73</u> (B) |
| Prevalence Index = B/A = | | <u>2.355</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Everett Grosskopf | NWI/WWI Classification: N/A | State: Wisconsin |
| Soil Unit: Oakville loamy fine sand | Local Relief: Concave | Wetland ID: P-68 |
| Landform: Depression | Latitude: N/A Longitude: N/A Datum: N/A | Sample Point: P-68W |
| Slope (%): 0-2 | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 20 | 2 | 10YR | 5/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-68**

Sample Point **P-68W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 2. | <i>Glyceria striata</i> | 10 | N | OBL |
| 3. | <i>Elymus virginicus</i> | 30 | Y | FACW |
| 4. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 5. | <i>Urtica dioica</i> | 2 | N | FAC |
| 6. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 64 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|-----------------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>35</u> | x 2 = | <u>70</u> |
| FAC spp. <u>4</u> | x 3 = | <u>12</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>64</u> (A) | | <u>107</u> (B) |
| Prevalence Index = B/A = | | <u>1.672</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-69 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-69U |
| Longitude: N/A | | Datum: N/A | | Community ID: Upland swale |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in an upland swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 28 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of only one secondary indicator at the sample plot does not provide sufficient evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 4 | 10 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand | |
| 20 | 28 | 3 | 10YR | 4/3 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydic Soil Present? Yes No

Remarks:

Project/Site: **Kohler Golf Course**

Wetland ID: **P-69**

Sample Point **P-69U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|----|---|------|
| 1. | <i>Carex pensylvanica</i> | 50 | Y | UPL |
| 2. | <i>Pinus strobus</i> | 2 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 52 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>50</u> | x 5 = | <u>250</u> |
| Total <u>57</u> (A) | | <u>268</u> (B) |
| Prevalence Index = B/A = | | <u>4.702</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Terrace | | Local Relief: Convex | | Wetland ID: P-70 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-70U |
| | | Longitude: N/A | | Community ID: Upland forest |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 4 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand |
| 4 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-70**

Sample Point **P-70U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 25 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 80 | Y | UPL |
| 2. | <i>Urtica dioica</i> | 2 | N | FAC |
| 3. | <i>CIRSIIUM ARVENSE</i> | 2 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 84 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>67</u> | x 4 = | <u>268</u> |
| UPL spp. <u>80</u> | x 5 = | <u>400</u> |
| Total <u>149</u> (A) | | <u>674</u> (B) |
| Prevalence Index = B/A = | | <u>4.523</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-70 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-70W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 17 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (14 inches) and saturation (10 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 10 | 2 | 10YR | 5/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 10 | 16 | 3 | 10YR | 5/3 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 16 | 24 | 4 | 10YR | 4/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A | Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-70**

Sample Point **P-70W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-------------------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|------------------------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| | | Total Cover = 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|-------------------------|---|------|
| 1. | <i>Elymus virginicus</i> | 15 | Y | FACW |
| 2. | <i>Carex intumescens</i> | 2 | N | FACW |
| 3. | <i>Lycopus uniflorus</i> | 5 | Y | OBL |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| | | Total Cover = 22 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|------------------------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| | | Total Cover = 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|-----------------------|
| OBL spp. <u>5</u> | x 1 = | <u>5</u> |
| FACW spp. <u>57</u> | x 2 = | <u>114</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>62</u> (A) | | <u>119</u> (B) |
| Prevalence Index = B/A = | | <u>1.919</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | Investigator #1: Jeff Kraemer | County: Sheboygan |
| Investigator #2: Everett Grosskopf | Soil Unit: Oakville loamy fine sand | State: Wisconsin |
| Landform: Depression | NWI/WWI Classification: N/A | Wetland ID: P-71 |
| Slope (%): 0-2 | Local Relief: Concave | Sample Point: P-71W |
| Latitude: N/A | Longitude: N/A | Community ID: Seasonally Flooded Basin |
| Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Naturally problematic hydrology due to seasonal nature of saturation/inundation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (6 inches) and saturation (2 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 5 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 5 | 13 | 2 | 10YR | 5/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 13 | 24 | 3 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: The soil at the sample plot meets the A11, S5 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-71**

Sample Point **P-71W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|----|---|------|
| 1. | <i>Lycopus uniflorus</i> | 15 | Y | OBL |
| 2. | <i>Urtica dioica</i> | 10 | Y | FAC |
| 3. | <i>Thelypteris palustris</i> | 2 | N | FACW |
| 4. | <i>Elymus virginicus</i> | 5 | N | FACW |
| 5. | <i>Carex stricta</i> | 10 | Y | OBL |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 42 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|---|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|---------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>17</u> | x 2 = | <u>34</u> |
| FAC spp. <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>52</u> | (A) | <u>89</u> (B) |
| Prevalence Index = B/A = | | <u>1.712</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-72 | Sample Point: P-72U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 4 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand |
| 4 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-72**

Sample Point **P-72U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Quercus rubra</i> | 25 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 3. | <i>Prunus serotina</i> | 5 | N | FACU |
| 4. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 90 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 95 | Y | UPL |
| 2. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 97 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>92</u> | x 4 = | <u>368</u> |
| UPL spp. <u>95</u> | x 5 = | <u>475</u> |
| Total <u>187</u> (A) | | <u>843</u> (B) |
| Prevalence Index = B/A = | | <u>4.508</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-72 | Sample Point: P-72W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 11 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 8 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 20 | 2 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5, S11, and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-72**

Sample Point **P-72W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 5 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Elymus virginicus</i> | 2 | N | FACW |
| 2. | <i>Lycopus uniflorus</i> | 20 | Y | OBL |
| 3. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 4. | <i>Carex blanda</i> | 5 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 29 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|---------------|
| OBL spp. <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. <u>29</u> | x 2 = | <u>58</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>54</u> (A) | | <u>93</u> (B) |
| Prevalence Index = B/A = | | <u>1.722</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Side slope | | Local Relief: Linear | | Wetland ID: P-73 |
| Slope (%): 2-6 | | Latitude: N/A | | Sample Point: P-73U |
| Longitude: N/A | | Datum: N/A | | Community ID: Upland ridge |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 6 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 24 | 3 | 10YR | 5/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-73**

Sample Point **P-73U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 50 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 10 | N | FACU |
| 3. | <i>Betula papyrifera</i> | 15 | Y | FACU |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|---|------|
| 1. | <i>Carex pensylvanica</i> | 70 | Y | UPL |
| 2. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 72 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>77</u> | x 4 = | <u>308</u> |
| UPL spp. | <u>70</u> | x 5 = | <u>350</u> |
| Total | | <u>147</u> (A) | <u>658</u> (B) |
| Prevalence Index = B/A = | | <u>4.476</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-73 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-73W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Naturally problematic hydrology identified due to seasonal occurrence of inundation/saturation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Field observations of high water table (10 inches) and saturation (6 inches) were found during Excel Engineering field investigation in May. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | sandy loam | |
| 3 | 15 | 2 | 10YR | 4/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 15 | 20 | 3 | 10YR | 5/2 | 98 | 10YR | 4/4 | 2 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-73**

Sample Point **P-73W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 5 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 2. | <i>Elymus virginicus</i> | 25 | Y | FACW |
| 3. | <i>Rubus idaeus var. strigosus</i> | 10 | Y | FAC |
| 4. | <i>Symphotrichum ontarionis</i> | 5 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 45 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|---------------|----------------|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 35 | x 2 = | 70 |
| FAC spp. | 15 | x 3 = | 45 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | | 50 (A) | 115 (B) |
| Prevalence Index = B/A = | | 2.300 | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-74 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-74W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 14 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 10 | 2 | 10YR | 4/1 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| 10 | 20 | 3 | 10YR | 4/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-74**

Sample Point **P-74W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 40 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 2. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 22 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex intumescens</i> | 2 | N | FACW |
| 2. | <i>Symphotrichum ontarionis</i> | 2 | N | FAC |
| 3. | <i>Glyceria striata</i> | 20 | Y | OBL |
| 4. | <i>Elymus virginicus</i> | 15 | Y | FACW |
| 5. | <i>GLECHOMA HEDERACEA</i> | 5 | N | FACU |
| 6. | <i>Carex blanda</i> | 5 | N | FAC |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 49 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>20</u> | x 1 = | <u>20</u> |
| FACW spp. <u>77</u> | x 2 = | <u>154</u> |
| FAC spp. <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. <u>7</u> | x 4 = | <u>28</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>111</u> (A) | | <u>223</u> (B) |
| Prevalence Index = B/A = | | <u>2.009</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Side slope | | Local Relief: Convex | | Wetland ID: P-75U |
| Slope (%): 2-6 | | Latitude: N/A | | Sample Point: P-75U |
| Longitude: N/A | | Datum: N/A | | Community ID: Upland ridge |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 5 | 2 | 10YR | 5/2 | 100 | -- | -- | -- | -- | loamy sand |
| 5 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydic soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-75U**

Sample Point **P-75U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 15 | N | FACU |
| 3. | <i>Fagus grandifolia</i> | 25 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|---|-----|
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 60 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|---|----------|---|---|
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>80</u> | x 4 = | <u>320</u> |
| UPL spp. | <u>60</u> | x 5 = | <u>300</u> |
| Total | | <u>140</u> (A) | <u>620</u> (B) |
| Prevalence Index = B/A = | | <u>4.429</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-75 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-75W |
| Longitude: N/A | | Datum: N/A | | Community ID: Seasonally Flooded Basin |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 13 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 2 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 9 | 2 | 10YR | 4/1 | 97 | 10YR | 4/4 | 3 | C | M | loamy sand |
| 9 | 20 | 3 | 10YR | 4/2 | 95 | 10YR | 4/4 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the A11, S5, S11 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-75**

Sample Point **P-75W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Glyceria striata</i> | 25 | Y | OBL |
| 2. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 30 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------------|
| OBL spp. <u>30</u> | x 1 = | <u>30</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>30</u> | (A) | <u>30</u> (B) |
| Prevalence Index = B/A = | | <u>1.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-76 | Sample Point: P-76U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland ridge |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: **Sample plot is located on an upland ridge. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot. The sample plot is located approximately 3 to 5 feet higher in elevation than associated wetland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 3 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 3 | 5 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| 5 | 24 | 3 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-76**

Sample Point **P-76U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 3. | <i>Acer saccharum</i> | 15 | N | FACU |
| 4. | <i>Quercus rubra</i> | 30 | Y | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopodium digitatum</i> | 40 | Y | UPL |
| 2. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 3. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 4. | <i>Pinus strobus</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 84 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>89</u> | x 4 = | <u>356</u> |
| UPL spp. <u>80</u> | x 5 = | <u>400</u> |
| Total <u>169</u> (A) | | <u>756</u> (B) |
| Prevalence Index = B/A = | | <u>4.473</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-76 | Sample Point: P-76W |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Community ID: Seasonally Flooded Basin | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Sample plot is located in a seasonally inundated or saturated interdunal swale. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology. The sample plot is located approximately 3 to 5 feet lower in elevation than surrounding upland.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 3 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 3 | 12 | 2 | 10YR | 5/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 12 | 20 | 3 | 10YR | 5/4 | 97 | 10YR | 4/6 | 3 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11, S5 and S11 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-76**

Sample Point **P-76W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopus uniflorus</i> | 5 | N | OBL |
| 2. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 3. | <i>Glyceria striata</i> | 10 | Y | OBL |
| 4. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 5. | <i>Carex stricta</i> | 10 | Y | OBL |
| 6. | <i>Thelypteris palustris</i> | 5 | N | FACW |
| 7. | <i>Carex pensylvanica</i> | 5 | N | UPL |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 39 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|---------------|
| OBL spp. <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. <u>7</u> | x 2 = | <u>14</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. <u>5</u> | x 5 = | <u>25</u> |
| Total <u>39</u> (A) | | <u>72</u> (B) |
| Prevalence Index = B/A = | | <u>1.846</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: P-77 | Sample Point: P-77U |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Community ID: Upland forest |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in an upland forest withing the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 4 | 7 | 2 | 10YR | 5/3 | 100 | -- | -- | -- | -- | loamy sand |
| 7 | 24 | 3 | 7.5YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-77**

Sample Point **P-77U**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 40 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 10 | N | FACU |
| 3. | <i>Quercus rubra</i> | 5 | N | FACU |
| 4. | <i>Acer saccharum</i> | 10 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Lycopodium digitatum</i> | 80 | Y | UPL |
| 2. | <i>Pinus strobus</i> | 2 | N | FACU |
| 3. | <i>Dryopteris carthusiana</i> | 2 | N | FACW |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 84 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------|--------------|-------------------------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>2</u> | x 2 = | <u>4</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>77</u> | x 4 = | <u>308</u> |
| UPL spp. | <u>80</u> | x 5 = | <u>400</u> |
| Total | | | <u>159</u> (A) <u>712</u> (B) |
| Prevalence Index = B/A = | | | <u>4.478</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|---------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: P-77 |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: P-77W |
| | | Longitude: N/A | | Community ID: Wet meadow |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: Sample plot is located in a seasonally inundated or saturated interdunal swale within the growing season. The hydrology of this sample plot is naturally problematic due to lack of primary hydrology indicators during the normal dry season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Primary indicators of high water table (8 in.) and saturation (4 in.) were found in May field investigation.

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam | |
| 4 | 14 | 2 | 10YR | 4/4 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| 14 | 24 | 3 | 10YR | 5/3 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: The soil at the sample plot meets the S11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **P-77**

Sample Point **P-77W**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| 6. | - | - | - | - |
| 7. | - | - | - | - |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| Total Cover = | | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|------------------------------------|-----------|----------|-------------|
| 1. | <i>Calamagrostis canadensis</i> | 60 | Y | OBL |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 3. | <i>Thelypteris palustris</i> | 3 | N | FACW |
| 4. | <i>Carex lacustris</i> | 5 | N | OBL |
| 5. | <i>Solidago gigantea</i> | 2 | N | FACW |
| 6. | <i>Rubus idaeus var. strigosus</i> | 2 | N | FAC |
| 7. | <i>Quercus rubra</i> | 2 | N | FACU |
| 8. | - | - | - | - |
| 9. | - | - | - | - |
| 10. | - | - | - | - |
| 11. | - | - | - | - |
| 12. | - | - | - | - |
| 13. | - | - | - | - |
| 14. | - | - | - | - |
| 15. | - | - | - | - |
| Total Cover = | | 79 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind. Status |
|---------------|--------------|----------|----------|-------------|
| 1. | - | - | - | - |
| 2. | - | - | - | - |
| 3. | - | - | - | - |
| 4. | - | - | - | - |
| 5. | - | - | - | - |
| Total Cover = | | 0 | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. 65 | x 1 = | 65 |
| FACW spp. 5 | x 2 = | 10 |
| FAC spp. 2 | x 3 = | 6 |
| FACU spp. 7 | x 4 = | 28 |
| UPL spp. 0 | x 5 = | 0 |
| Total 79 (A) | | 109 (B) |
| Prevalence Index = B/A = | | 1.380 |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/22/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Oakville loamy fine sand | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: P-78 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: P-78W |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Seasonally Flooded Basin |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No Is This Sampling Point Within A Wetland? Yes No

Remarks: Sample plot is located in a seasonally inundated or saturated intertidal swale within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.30 inches of rainfall was recorded near the Project 2 weeks prior to the wetland delineation. Atypical situations require the use of professional judgment. Based upon the landscape position, wetland hydrology and hydric soil parameters observed, the sample plot is located in a wetland.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 1 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsammments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | 2/1 | % | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 4 | 9 | 2 | 10YR | 4/2 | 90 | 10YR | 4/6 | 10 | C | M | loamy sand |
| 9 | 30 | 3 | 10YR | 4/3 | 90 | 10YR | 5/6 | 10 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input checked="" type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot meets the F1, S5 and S11 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **P-78**

Sample Point **P-78W**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 10 | Y | FACU |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Calamagrostis canadensis</i> | 2 | N | OBL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 2 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>2</u> | x 1 = | <u>2</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>32</u> (A) | | <u>122</u> (B) |
| Prevalence Index = B/A = | | <u>3.813</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely dominate the seasonally flooded basin in early growing season.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|-----------------------|-----------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Investigator #2: Everett Grosskopf | | State: Wisconsin |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | | Wetland ID: RT2A |
| Landform: Shoulder | | Local Relief: Convex | | Sample Point: RT2AU |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A | Community ID: Upland ridge |
| Datum: N/A | | Section: 11 | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Range: 23 Dir: E | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Are normal circumstances present? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No

Wetland Hydrology Present? Yes No **Is This Sampling Point Within A Wetland?** Yes No

Remarks: **The sample plot is located in an upland within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 2 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 2 | 3 | 2 | 10YR | 4/3 | 100 | -- | -- | -- | -- | loamy sand |
| 3 | 24 | 3 | 7.5YR | 3/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT2A**

Sample Point **RT2AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Fagus grandifolia</i> | 5 | N | FACU |
| 3. | <i>Quercus rubra</i> | 30 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 75 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 5 | Y | FACU |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 20 | Y | FACU |
| 2. | <i>Carex blanda</i> | 2 | N | FAC |
| 3. | <i>Carex pensylvanica</i> | 2 | N | UPL |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 24 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. <u>2</u> | x 5 = | <u>10</u> |
| Total <u>109</u> (A) | | <u>436</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Investigator #2: Everett Grosskopf | | State: Wisconsin |
| Soil Unit: Granby loamy fine sand | | NWI/WWI Classification: N/A | | Wetland ID: RT2A |
| Landform: Depression | | Local Relief: Concave | | Sample Point: RT2AW |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A | Community ID: Hardwood swamp/basin |
| Datum: N/A | | Section: 11 | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N | | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Range: 23 Dir: E | | |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is This Sampling Point Within A Wetland? Yes No

Remarks: Still the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation. Atypical situations require the use of professional judgment. Based on landscape position, hydric soils and indicators of hydrology present, and the timing of the delineation, this area appears it may be inundated or saturated for longer periods of time during the early growing season.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: >24 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 24 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: The presence of 1 primary and 2 secondary indicators at the sample plot provides sufficient evidence of wetland hydrology. Field observations of high water table (4 inches) and saturation (to the surface) were found during Excel Engineering field investigation in May. Naturally problematic hydrology identified given the seasonal nature of inundation/saturation.

SOILS

Map Unit Name: **Granby loamy fine sand** Series Drainage Class: **very poorly to poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 2/1 | 100 | | | | | | silt loam |
| 6 | 10 | 2 | 10YR | 4/2 | 90 | 10YR | 4/6 | 10 | C | M | loamy sand |
| 10 | 20 | 3 | 10YR | 5/6 | 95 | 7.5YR | 5/6 | 5 | C | M | loamy sand |
| 20 | 24 | 4 | 10YR | 6/1 | 95 | 10YR | 5/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

Hydric Soil Present? Yes No

Remarks: The soil at the sample plot meets the S5 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

Project/Site: **Kohler Golf Course**

Wetland ID: **RT2A**

Sample Point **RT2AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 2. | <i>Acer saccharum</i> | 15 | Y | FACU |
| 3. | <i>Quercus rubra</i> | 20 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 50 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 2 | Y | FACU |
| 2. | <i>Carex intumescens</i> | 2 | Y | FACW |
| 3. | <i>Glyceria striata</i> | 2 | Y | OBL |
| 4. | <i>Calamagrostis canadensis</i> | 2 | Y | OBL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 8 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|-----------------------|
| OBL spp. <u>4</u> | x 1 = | <u>4</u> |
| FACW spp. <u>17</u> | x 2 = | <u>34</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>42</u> | x 4 = | <u>168</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>63</u> (A) | | <u>206</u> (B) |
| Prevalence Index = B/A = | | <u>3.270</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Wetland spring ephemeral plants mostly likely occur within the seasonally flooded basin in early growing season.**

Additional Remarks:

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Oakville loamy fine sand | | State: Wisconsin |
| Landform: Side slope | | NW1/WW1 Classification: N/A | | Wetland ID: RT6A |
| Slope (%): 2-6 | | Local Relief: Linear | | Sample Point: RT6AU |
| Latitude: N/A | | Longitude: N/A | | Community ID: Upland forest |
| Datum: N/A | | Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Oakville loamy fine sand** Series Drainage Class: **moderately well to well**

Taxonomy (Subgroup): **Typic Udipsamments**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 24 | 2 | 10YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6A**

Sample Point **RT6AU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 65 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 60 | Y | UPL |
| 2. | <i>Fagus grandifolia</i> | 10 | N | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 70 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>115</u> | x 4 = | <u>460</u> |
| UPL spp. <u>60</u> | x 5 = | <u>300</u> |
| Total <u>175</u> (A) | | <u>760</u> (B) |
| Prevalence Index = B/A = | | <u>4.343</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Alluvial land - wet | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: RT6A |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: RT6AW |
| Longitude: N/A | | Datum: N/A | | Community ID: Hardwood swamp |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 14 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is in a hardwood swamp within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Alluvial land - wet** Series Drainage Class: **#N/A**

Taxonomy (Subgroup): **#N/A**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-------|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 9 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | mucky silt loam |
| 9 | 28 | 2 | N | 2.5/0 | 100 | -- | -- | -- | muck |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

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| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 and F1 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6A**

Sample Point **RT6AW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 40 | Y | FACW |
| 2. | <i>Carpinus caroliniana</i> | 15 | Y | FAC |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 10 | Y | FACW |
| 2. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 3. | <i>Carpinus caroliniana</i> | 10 | Y | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 30 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>HESPERIS MATRONALIS</i> | 5 | N | FACU |
| 2. | <i>Osmundastrum cinnamomeum</i> | 20 | Y | FACW |
| 3. | <i>Symphotrichum ontarionis</i> | 5 | N | FAC |
| 4. | <i>Geum canadense</i> | 10 | Y | FAC |
| 5. | <i>Solidago gigantea</i> | 5 | N | FACW |
| 6. | <i>Calamagrostis canadensis</i> | 10 | N | OBL |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|--------------------------|--------------|----------------|
| OBL spp. <u>10</u> | x 1 = | <u>10</u> |
| FACW spp. <u>85</u> | x 2 = | <u>170</u> |
| FAC spp. <u>40</u> | x 3 = | <u>120</u> |
| FACU spp. <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>140</u> | (A) | <u>320</u> (B) |
| Prevalence Index = B/A = | | <u>2.286</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Palms muck | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Side slope | | Local Relief: Linear | State: Wisconsin |
| Slope (%): 2-6 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: RT6B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 14 | Sample Point: RT6BU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Community ID: Upland ridge | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 23 | Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland ridge within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

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| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Palms muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL, PL, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 5 | 6 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand |
| 6 | 24 | 3 | 7.5YR | 5/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <p>Restrictive Layer (if Observed) Type: N/A Depth: N/A</p> | <p>Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
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Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6B**

Sample Point **RT6BU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 2. | <i>Pinus resinosa</i> | 25 | Y | FACU |
| 3. | <i>Picea mariana</i> | 10 | N | FACW |
| 4. | <i>Prunus serotina</i> | 5 | Y | FACU |
| 5. | <i>Betula papyrifera</i> | 20 | Y | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 80 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | <i>Prunus serotina</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 10 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 60 | Y | FACU |
| 2. | <i>Carex pensylvanica</i> | 40 | Y | UPL |
| 3. | <i>Geum canadense</i> | 5 | N | FAC |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. <u>140</u> | x 4 = | <u>560</u> |
| UPL spp. <u>40</u> | x 5 = | <u>200</u> |
| Total <u>195</u> (A) | | <u>795</u> (B) |
| Prevalence Index = B/A = | | <u>4.077</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Palms muck | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: RT6B |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: RT6BW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Hardwood swamp |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

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|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Palms muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | |
| 0 | 13 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | muck |
| 13 | 24 | 2 | 10YR | 3/2 | 100 | -- | -- | -- | -- | muck |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6B**

Sample Point **RT6BW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 50 | Y | FACW |
| 2. | <i>Betula papyrifera</i> | 10 | N | FACU |
| 3. | <i>Pinus strobus</i> | 5 | N | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 65 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 10 | Y | FACW |
| 2. | <i>BERBERIS THUNBERGII</i> | 10 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 2. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 3. | <i>Geum canadense</i> | 25 | Y | FAC |
| 4. | <i>Calamagrostis canadensis</i> | 15 | Y | OBL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 55 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|-----------------------------|--------------|----------------|
| OBL spp. <u>15</u> | x 1 = | <u>15</u> |
| FACW spp. <u>70</u> | x 2 = | <u>140</u> |
| FAC spp. <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>140</u> (A) | | <u>350</u> (B) |
| Prevalence Index = B/A = | | <u>2.500</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Palms muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: RT6C |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: RT6CU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland ridge |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydic Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland ridge within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Palms muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 5 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 5 | 7 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| 7 | 24 | 3 | 10YR | 4/6 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input checked="" type="checkbox"/> A1 - Histosol <input checked="" type="checkbox"/> A2 - Histic Epipedon <input checked="" type="checkbox"/> A3 - Black Histic <input checked="" type="checkbox"/> A4 - Hydrogen Sulfide <input checked="" type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input checked="" type="checkbox"/> S1 - Sandy Muck Mineral <input checked="" type="checkbox"/> S4 - Sandy Gleyed Matrix <input checked="" type="checkbox"/> S5 - Sandy Redox <input checked="" type="checkbox"/> S6 - Stripped Matrix <input checked="" type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6C**

Sample Point **RT6CU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 30 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 25 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 10 | N | FACU |
| 4. | <i>Pinus resinosa</i> | 30 | Y | FACU |
| 5. | <i>Picea glauca</i> | 10 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 105 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 2. | <i>Crataegus crus-galli</i> | 5 | Y | FAC |
| 3. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 12 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 10 | N | FACU |
| 2. | <i>Carex pensylvanica</i> | 70 | Y | UPL |
| 3. | <i>ALLIARIA PETIOLATA</i> | 2 | N | FACU |
| 4. | <i>Carex blanda</i> | 2 | N | FAC |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 84 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|-----------------------|--------------|-----------------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>7</u> | x 3 = | <u>21</u> |
| FACU spp. | <u>124</u> | x 4 = | <u>496</u> |
| UPL spp. | <u>70</u> | x 5 = | <u>350</u> |
| Total | <u>201</u> (A) | | <u>867</u> (B) |
| Prevalence Index = B/A = | | | <u>4.313</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Palms muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Depression | | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: RT6C |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: RT6CW |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | Community ID: Alder thicket |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an alder thicket within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 22 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 18 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Naturally problematic hydrology identified due to season occurrence of inundation/saturation.**

SOILS

Map Unit Name: **Palms muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 9 | 18 | 2 | 10YR | 4/2 | 90 | 10YR | 5/6 | 10 | C | M | silty clay |
| 18 | 24 | 3 | 10YR | 5/1 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6C**

Sample Point **RT6CW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-------------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Crataegus crus-galli</i> | 15 | Y | FAC |
| 2. | <i>Fraxinus pennsylvanica</i> | 5 | N | FACW |
| 3. | <i>Alnus incana</i> | 20 | Y | FACW |
| 4. | <i>ROSA MULTIFLORA</i> | 2 | N | FACU |
| 5. | <i>BERBERIS THUNBERGII</i> | 5 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 47 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>HESPERIS MATRONALIS</i> | 5 | Y | FACU |
| 2. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 3. | <i>Elymus virginicus</i> | 2 | N | FACW |
| 4. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 5. | <i>Geum canadense</i> | 5 | Y | FAC |
| 6. | <i>Carex blanda</i> | 2 | N | FAC |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 24 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>52</u> | x 2 = | <u>104</u> |
| FAC spp. <u>22</u> | x 3 = | <u>66</u> |
| FACU spp. <u>17</u> | x 4 = | <u>68</u> |
| UPL spp. <u>0</u> | x 5 = | <u>0</u> |
| Total <u>91</u> (A) | | <u>238</u> (B) |
| Prevalence Index = B/A = | | <u>2.615</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Houghton muck | | NWI/WWI Classification: T3K | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | | Latitude: N/A | Longitude: N/A |
| | | Datum: N/A | Wetland ID: RT6D |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Sample Point: RT6DU |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | Community ID: Upland forest |
| | | | Section: 14 |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | |
| 0 | 8 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | loamy sand |
| 8 | 24 | 2 | 10YR | 4/4 | 100 | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6D**

Sample Point **RT6DU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-----------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 10 | N | FACU |
| 3. | <i>Pinus resinosa</i> | 30 | Y | FACU |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 60 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 1 | N | FACU |
| 3. | <i>Fagus grandifolia</i> | 1 | N | FACU |
| 4. | <i>Carex pensylvanica</i> | 2 | Y | UPL |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 9 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | Multiply by: | |
|----------------------------|--------------|----------------|
| OBL spp. <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. <u>87</u> | x 4 = | <u>348</u> |
| UPL spp. <u>2</u> | x 5 = | <u>10</u> |
| Total <u>89</u> (A) | | <u>358</u> (B) |
| Prevalence Index = B/A = | | <u>4.022</u> |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Houghton muck | | State: Wisconsin |
| Landform: Depression | | Local Relief: Concave | | Wetland ID: RT6D |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: RT6DW |
| | | Longitude: N/A | | Community ID: Hardwood swamp |
| | | Datum: N/A | | Section: 14 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Range: 23 Dir: E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 12 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 2 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 7 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | mucky silt loam | |
| 7 | 11 | 2 | 10YR | 4/2 | 92 | 10YR | 5/6 | 8 | C | M | sandy loam |
| 11 | 20 | 3 | 10YR | 5/2 | 95 | 10YR | 4/6 | 5 | C | M | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input checked="" type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 F1, and F3 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6D**

Sample Point **RT6DW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Prunus serotina</i> | 5 | N | FACU |
| 2. | <i>Pinus strobus</i> | 10 | Y | FACU |
| 3. | <i>Fraxinus pennsylvanica</i> | 20 | Y | FACW |
| 4. | <i>Quercus rubra</i> | 10 | N | FACU |
| 5. | <i>Acer rubrum</i> | 10 | N | FAC |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 55 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Crataegus crus-galli</i> | 20 | Y | FAC |
| 2. | <i>BERBERIS THUNBERGII</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 25 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 15 | Y | FACU |
| 2. | <i>Solidago gigantea</i> | 5 | Y | FACW |
| 3. | <i>Geum canadense</i> | 5 | Y | FAC |
| 4. | <i>Thelypteris palustris</i> | 5 | Y | FACW |
| 5. | <i>Elymus virginicus</i> | 2 | N | FACW |
| 6. | <i>LONICERA X BELLA</i> | 2 | N | FACU |
| 7. | <i>Carex intumescens</i> | 2 | N | FACW |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 36 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 8 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>34</u> | x 2 = | <u>68</u> |
| FAC spp. | <u>35</u> | x 3 = | <u>105</u> |
| FACU spp. | <u>47</u> | x 4 = | <u>188</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>116</u> (A) | <u>361</u> (B) |
| Prevalence Index = B/A = | | <u>3.112</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | Investigator #2: Everett Grosskopf |
| Soil Unit: Houghton muck | | NWI/WWI Classification: N/A | County: Sheboygan |
| Landform: Shoulder | | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Datum: N/A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Wetland ID: RT6E |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 11 | |
| | | | Township: 14 N |
| | | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in an upland forest within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test |
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Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **No evidence of wetland hydrology was observed at the sample plot.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | sandy loam |
| 6 | 7 | 2 | 10YR | 4/2 | 100 | -- | -- | -- | -- | loamy sand |
| 7 | 24 | 3 | 10YR | 4/4 | 100 | -- | -- | -- | -- | loamy sand |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A Depth: N/A | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6E**

Sample Point **RT6EU**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Acer saccharum</i> | 40 | Y | FACU |
| 2. | <i>Pinus strobus</i> | 20 | Y | FACU |
| 3. | <i>Fagus grandifolia</i> | 20 | Y | FACU |
| 4. | <i>Pinus resinosa</i> | 5 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 85 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|--------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fagus grandifolia</i> | 15 | Y | FACU |
| 2. | <i>Acer saccharum</i> | 5 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 20 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Carex pensylvanica</i> | 80 | Y | UPL |
| 2. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 3. | <i>Acer saccharum</i> | 10 | N | FACU |
| 4. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 94 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>119</u> | x 4 = | <u>476</u> |
| UPL spp. | <u>80</u> | x 5 = | <u>400</u> |
| Total | | <u>199</u> (A) | <u>876</u> (B) |
| Prevalence Index = B/A = | | <u>4.402</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

| | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|-------------------------------------|
| Project/Site: Kohler Golf Course | | Stantec Project #: 193703078 | | Date: 10/23/14 |
| Applicant: Kohler | | Investigator #1: Jeff Kraemer | | County: Sheboygan |
| Investigator #2: Everett Grosskopf | | Soil Unit: Houghton muck | | State: Wisconsin |
| Landform: Toeslope | | Local Relief: Concave | | Wetland ID: RT6E |
| Slope (%): 0-2 | | Latitude: N/A | | Sample Point: RT6EW |
| Longitude: N/A | | Datum: N/A | | Community ID: Hardwood swamp |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | Section: 11 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | | Township: 14 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input checked="" type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Range: 23 Dir: E |

SUMMARY OF FINDINGS

| | |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydic Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **The sample plot is located in a hardwood swamp within the growing season. WETS analysis determined that the antecedent precipitation conditions were normal. 2.43 inches of rainfall was recorded near the Project 2 weeks prior of the wetland delineation.**

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present):

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Field Observations:

| | | |
|--------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: - (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 20 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The presence of 3 secondary indicators at the sample plot provides evidence of wetland hydrology. Hydrology identified as naturally problematic due to seasonal occurrence of inundation/saturation.**

SOILS

Map Unit Name: **Houghton muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Typic Haplosaprists**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type C Concentration, D Depletion, RM Reduced Matrix, CS Covered/Coated Sand Grains, Location PL Pore Lining, M Matrix)

| Top Depth | Bottom Depth | Horizon | Matrix | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | silt loam | |
| 6 | 8 | 2 | 10YR | 3/2 | 95 | 10YR | 4/6 | 5 | C | M | silt loam |
| 8 | 20 | 3 | 7.5YR | 5/2 | 90 | 7.5YR | 5/6 | 10 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
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NRCS Hydic Soil Field Indicators (check here if indicators are not present):

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) | <ul style="list-style-type: none"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

| | | |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|
| Restrictive Layer (If Observed) Type: N/A | Depth: N/A | Hydic Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------|

Remarks: **The soil at the sample plot meets the A11 and F3 Indicators described in the NRCS publication Field Indicators of Hydic Soil in the United States - version 7.0.**

Project/Site: **Kohler Golf Course**

Wetland ID: **RT6E**

Sample Point **RT6EW**

VEGETATION (Species identified in all uppercase are non-native species.)

| Tree Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------|-------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Fraxinus pennsylvanica</i> | 15 | Y | FACW |
| 2. | <i>Acer saccharum</i> | 20 | Y | FACU |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 35 | | |

| Sapling/Shrub Stratum (Plot size: 5 meter radius) | | | | |
|---------------------------------------------------|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Alnus incana</i> | 15 | Y | FACW |
| 2. | <i>Acer saccharum</i> | 5 | N | FACU |
| 3. | <i>Crataegus crus-galli</i> | 5 | N | FAC |
| 4. | <i>Fagus grandifolia</i> | 2 | N | FACU |
| 5. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| Total Cover = | | 29 | | |

| Herb Stratum (Plot size: 2 meter radius) | | | | |
|------------------------------------------|---------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>BERBERIS THUNBERGII</i> | 2 | N | FACU |
| 2. | <i>Osmundastrum cinnamomeum</i> | 5 | Y | FACW |
| 3. | <i>Geum canadense</i> | 5 | Y | FAC |
| 4. | <i>Elymus virginicus</i> | 2 | N | FACW |
| 5. | <i>Equisetum arvense</i> | 2 | N | FAC |
| 6. | — | — | — | — |
| 7. | — | — | — | — |
| 8. | — | — | — | — |
| 9. | — | — | — | — |
| 10. | — | — | — | — |
| 11. | — | — | — | — |
| 12. | — | — | — | — |
| 13. | — | — | — | — |
| 14. | — | — | — | — |
| 15. | — | — | — | — |
| Total Cover = | | 16 | | |

| Woody Vine Stratum (Plot size: 10 meter radius) | | | | |
|-------------------------------------------------|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | — | — | — | — |
| 2. | — | — | — | — |
| 3. | — | — | — | — |
| 4. | — | — | — | — |
| 5. | — | — | — | — |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>37</u> | x 2 = | <u>74</u> |
| FAC spp. | <u>12</u> | x 3 = | <u>36</u> |
| FACU spp. | <u>31</u> | x 4 = | <u>124</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>80</u> (A) | <u>234</u> (B) |
| Prevalence Index = B/A = | | <u>2.925</u> | |

Hydrophytic Vegetation Indicators:

- Yes No Rapid Test for Hydrophytic Vegetation
- Yes No Dominance Test is > 50%
- Yes No Prevalence Index is ≤ 3.0 *
- Yes No Morphological Adaptations (Explain) *
- Yes No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present Yes No

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:

Appendix D – Site Photographs



Photo 1: br-10c-w looking north, Mosaic Beech/Maple complex.



Photo 2: br-10d-u looking south, Mosaic Beech/Maple complex.



Photo 3: br-11b-u looking north, Mosaic Beech/Maple complex.



Photo 4: 14bu looking west, old fallow field.



Photo 5: 17cw looking north, Alder thicket.



Photo 6: 10cw looking south, Alder thicket.



Photo 7: 10bu looking west, Upland forest.



Photo 8: 22bu looking south, Mesic forest.



Photo 9: P40dw looking east, Seasonally flooded basin.



Photo 10: P36u looking north, Upland ridge.



Photo 11: P33u looking north, Upland ridge.



Photo 12: P33w looking north, Wetland swale complex.



Photo 13: ne-2-w looking south, Wet meadow.



Photo 14: ne-2b-u looking north, Upland ridge.



Photo 15: 21cu looking north, Upland ridge.



Photo 16: 21cw looking west, Hardwood swamp.

Appendix E – Wetland Summary Table

Proposed Golf Course Project
Project Area Wetland Summary
November 2014

| Wetland ID | Map Page | Acreage (on-site) | Wetland Delineation Community Type | NHI Classification | WWI Classification | Wetland Description/Dominant Plant Species | Wetland Sample Points | Wetland Quality | Landownership | |
|------------|------------|-------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|-------------|
| | | | | | | | | | Kohler | State of WI |
| BR | 1, 2, 4, 5 | 115.56 | Alder Thicket, Hardwood Swamp, Mosaic Beech/Maple Complex, Wet Meadow | Alder Thicket, Forested Swamp, Hardwood Swamp/ Forest Swamp, Northern Mesic Forest, Wet Meadow | T3/E1K, T3K, E2K, T3/S3K | Large wetland complex within the Black River floodplain and tributary streams. Contains mosaic beech/maple complex (cradle knoll wetland) in the northeast portion. Dominant plant species include blue-joint grass, common lake sedge, common tussock sedge, green ash, reed canary grass, speckled alder. | 8w, 9/10w, 10bw, 10cw, 12bw, 12dw, 13w, 14bw, 15dw, 17bw, 17cw, 17dw, 18w, 19w, 19bw, 20w, 21bw, 21cw, 25w, 25bw, 25dw, 25ew, 25ew2, br-2a-w, br-3a-w, br-4a-w, br-5a-w, br-6a-w, br-8a-w, br-9a-w, br-9b-w, br-10b-w, br-10c-w, br-11-w, br-12a-w, br-13a-w, br-14a-w, br-14b-w, br-14c-w, rt-6b-w, rt-6c-w, rt-6d-w, rt-6e-w | Low - High | X | X |
| NE | 3, 6 | 2.94 | Alder Thicket, Wet Meadow | Swale Wetland Complex | T3/E2K | Linear wetland complex located within the interdunal swale landforms. Dominant plant species include blue-joint grass, common lake sedge, common tussock sedge, green ash, red maple and speckled alder. | ne-1-w, ne-2-w, ne-3-w, ne-4-w, ne-5-w, ne-6-w | High | X | |
| P-1 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include red raspberry and stinging nettle. | p-1w | High | X | |
| P-10 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include northern water-horehound. | p-10w | High | X | |
| P-13 | 3, 6 | 0.09 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, northern water-horehound and rice cut grass. | p-13w | High | X | |
| P-14 | 3, 6 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include northern water-horehound. | p-14w | High | X | |
| P-15 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include northern water-horehound and stinging nettle. | p-15w | High | X | |
| P-15b | 3, 6 | 0.05 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include fowl manna grass and green ash. | p-15bw | High | X | |
| P-15c | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash and toothed wood fern. | p-15cw | High | X | |
| P-16 | 3 | 0.04 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and northern water-horehound. | p-16w | High | X | |
| P-19 | 3, 6 | 0.04 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass. | p-19w | High | X | |
| P-2 | 3 | 0.03 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common tussock sedge, green ash and red raspberry. | p-2w | High | X | |
| P-20 | 3, 6 | 0.03 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass. | p-20w | High | X | |
| P-21 | 3, 6 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and eastern willow-herb. | p-21w | High | X | |
| P-22 | 3, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass. | p-22w | High | X | |
| P-23 | 3, 6 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and Japanese barberry. | p-23w | High | X | |
| P-25 | 3, 6 | 0.05 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash and speckled alder. | p-25w | High | X | |
| P-26 | 3, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and toothed wood fern. | p-26w | High | X | |
| P-27 | 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash and Pennsylvania sedge. | p-27w | High | X | |
| P-29 | 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include greater bladder sedge, Japanese barberry and northern water-horehound. | p-29w | High | X | |
| P-3 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass. | p-3w | High | X | |
| P-30 | 6 | 0.04 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and northern water-horehound. | p-30w | High | X | |
| P-31 | 6 | 0.04 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include fowl manna grass and speckled alder. | p-31w | High | X | |
| P-32 | 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and reed canary grass. | p-32w | High | X | |
| P-33 | 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include toothed wood fern. | p-33w | High | X | |
| P-34 | 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include Canadian wood-nettle. | p-34w | High | X | |
| P-36 | 6 | 0.01 | Seasonally Flooded Basin | Interdunal Wetland | N/A | Interdunal swale wetland. Dominant plant species include Pennsylvania sedge. | p-36w | High | X | |
| P-36b | 6 | 0.01 | Seasonally Flooded Basin | Interdunal Wetland | N/A | Interdunal swale wetland. Dominant plant species include Baltic rush and creeping juniper. | p-36bw | High | X | |
| P-36c | 3, 6 | 0.01 | Seasonally Flooded Basin | Interdunal Wetland | N/A | Interdunal swale wetland. Dominant plant species include Baltic rush. | p-36cw | High | X | |
| P-37 | 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and green ash. | p-37w | High | X | |
| P-38 | 6 | 0.06 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash, northern water-horehound and speckled alder. | p-38w | High | X | |
| P-39 | 6 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and speckled alder. | p-39w | High | X | |
| P-4 | 3 | 0.11 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and speckled alder. | p-4w | High | X | |
| P-40 | 5, 6 | 0.06 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include green ash, northern water-horehound, reed canary grass and speckled alder. | p-40w | High | X | |
| P-40b | 5, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common tussock sedge. | p-40bw | High | X | |
| P-40c | 5, 6 | 0.03 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and common tussock sedge. | p-40cw | High | X | |
| P-40d | 6 | 0.08 | Seasonally Flooded Basin | Interdunal Wetland | N/A | Interdunal swale wetland. Dominant plant species include Baltic rush, blue-joint grass, paper birch, red pine and white pine. | p-40dw | High | X | |
| P-40e | 6 | 0.02 | Seasonally Flooded Basin | Interdunal Wetland | N/A | Interdunal swale wetland. Dominant plant species include Baltic rush, prairie sand-reed and red pine. | p-40ew | High | X | |
| P-40f | 6 | 0.16 | Seasonally Flooded Basin | Interdunal Wetland | N/A | Interdunal swale wetland. Dominant plant species include Baltic rush, common juniper and paper birch. | p-40fw | High | X | |
| P-41 | 5, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and speckled alder. | p-41w | High | X | |
| P-42 | 5, 6 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, Japanese barberry, speckled alder and stinging nettle. | p-42w | High | X | |
| P-43 | 5, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash, red raspberry and speckled alder. | p-43w | High | X | |
| P-44 | 5, 6 | 0.05 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash, Japanese barberry and red raspberry. | p-44aw | High | X | |
| P-44b | 5, 6 | 0.04 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash, paper birch and red raspberry. | p-44bw | High | X | |

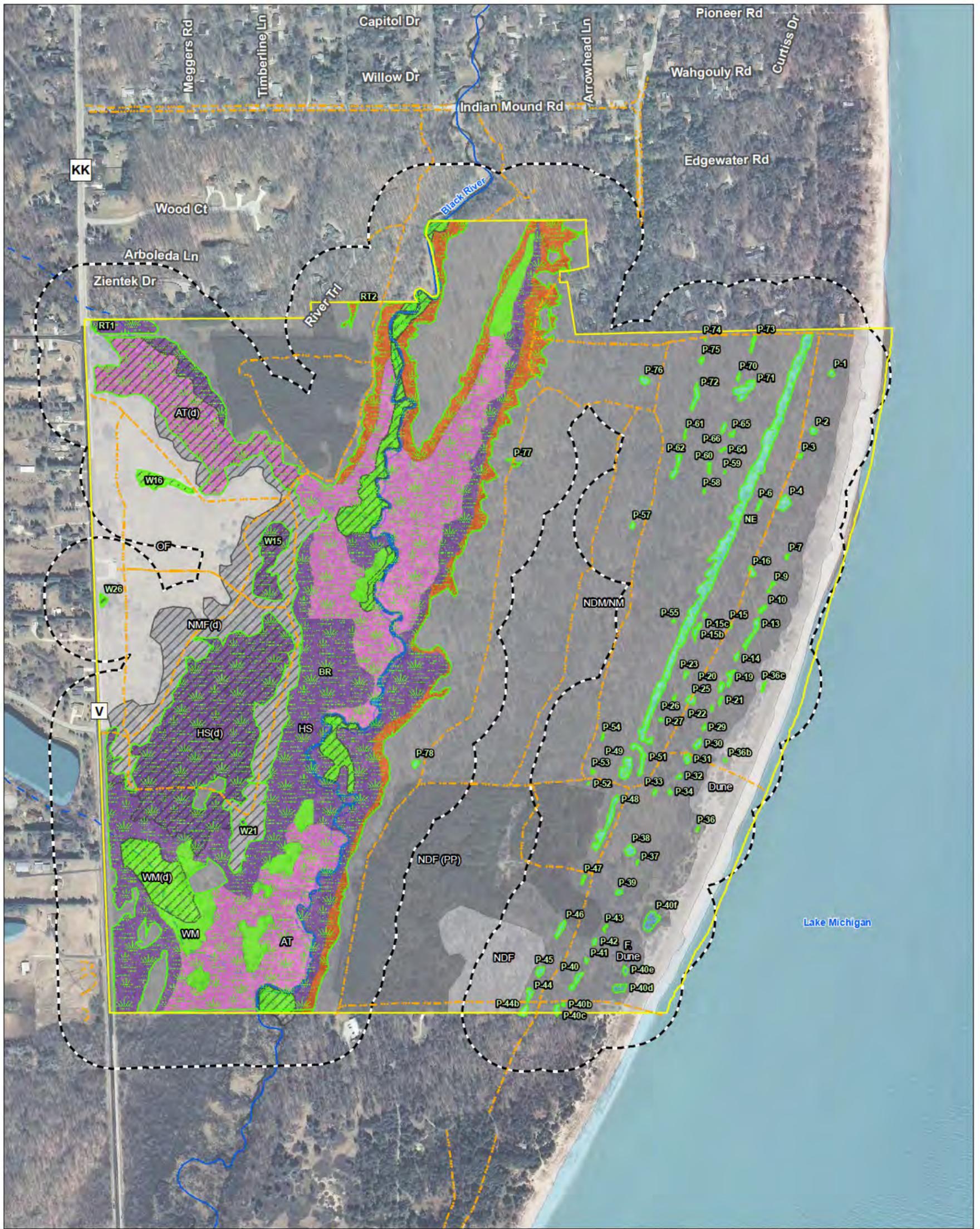
Proposed Golf Course Project
Project Area Wetland Summary
November 2014

| Wetland ID | Map Page | Acreage (on-site) | Wetland Delineation Community Type | NHI Classification | WWI Classification | Wetland Description/Dominant Plant Species | Wetland Sample Points | Wetland Quality | Landownership | |
|------------|----------|-------------------|------------------------------------|--------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|---------------|-------------|
| | | | | | | | | | Kohler | State of WI |
| P-45 | 5, 6 | 0.05 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include greater bladder sedge, green ash, Japanese barberry and northern water-horehound. | p-45w | High | X | |
| P-46 | 5, 6 | 0.06 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and common tussock sedge. | p-46w | High | X | |
| P-47 | 5, 6 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common tussock sedge. | p-47w | High | X | |
| P-48 | 5, 6 | 0.23 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common tussock sedge, green ash and speckled alder. | p-48w | High | X | |
| P-49 | 6 | 0.15 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common duckweed, and green ash. | p-49w | High | X | |
| P-51 | 6 | 0.11 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include Canadain wood-nettle, green ash, northern water-horehound and speckled alder. | p-51w | High | X | |
| P-52 | 5, 6 | 0.00 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include Japanese barberry and stinging nettle. | p-52w | High | X | |
| P-53 | 5, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include green ash, Pennsylvania sedge and sugar maple. | p-53w | High | X | |
| P-54 | 5, 6 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include fowl manna grass. | p-54w | High | X | |
| P-55 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include green ash and Japanese barberry. | p-55w | High | X | |
| P-57 | 2, 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. No plant species were observed. | p-57w | High | X | |
| P-58 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and Pennsylvania sedge. | p-58w | High | X | |
| P-59 | 3 | 0.00 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include fowl manna grass and greater bladder sedge. | p-59w | High | X | |
| P-6 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass, green ash and sugar maple. | p-6w | High | X | |
| P-60 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and northern water-horehound. | p-60w | High | X | |
| P-61 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include northern water-horehound. | p-61w | High | X | |
| P-62 | 3 | 0.07 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common eastern wild-rye, fowl manna grass and sensitive fern. | p-62w | High | X | |
| P-64 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and northern water-horehound. | p-64w | High | X | |
| P-65 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common eastern wild-rye, greater bladder sedge and green ash. | p-65w | High | X | |
| P-66 | 3 | 0.02 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include green ash and stinging nettle. | p-66w | High | X | |
| P-7 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and sugar maple. | p-7w | High | X | |
| P-70 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common eastern wild-rye, green ash and northern water-horehound. | p-70w | High | X | |
| P-71 | 3 | 0.17 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common tussock sedge, green ash, northern water-horehound and stinging nettle. | p-68w, p-71w | High | X | |
| P-72 | 3 | 0.07 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include green ash and northern water-horehound. | p-72w | High | X | |
| P-73 | 3 | 0.03 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common eastern wild-rye, red raspberry and speckled alder. | p-73w | High | X | |
| P-74 | 3 | 0.00 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include fowl manna grass and green ash. | p-74w | High | X | |
| P-75 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include fowl manna grass. | p-75w | High | X | |
| P-76 | 3 | 0.05 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include common tussock sedge and fowl manna grass. | p-76w | High | X | |
| P-77 | 2 | 0.03 | Wet Meadow | Swale Wetland Complex | N/A | Wet meadow wetland. Dominant plant species include blue-joint grass. | p-77w | High | X | |
| P-78 | 5 | 0.03 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include American beech. | p-78w | High | X | |
| P-9 | 3 | 0.01 | Seasonally Flooded Basin | Swale Wetland Complex | N/A | Great Lakes ridge and swale complex. Dominant plant species include blue-joint grass and common tussock sedge. | p-9w | High | X | |
| RT1 | 1 | 0.67 | Hardwood swamp | Hardwood Swamp | T3K | Hardwood swamp wetland. Dominant plant species include American hornbeam, cinnamon fern, green ash, speckled alder and white avens. | rt-6a-w | High | X | |
| RT2 | 1, 2 | 0.11 | Hardwood Swamp | Hardwood Swamp, Forested Swamp | N/A | Hardwood swamp wetland. Dominant plant species include blue-joint grass, fowl manna grass, greater bladder sedge, green ash, Japanese barberry and sugar maple. | rt-2a-w | High | X | |
| W15 | 1 | 1.36 | Hardwood Swamp | Hardwood Swamp | T3K | Hardwood swamp wetland. Dominant plant species include giant goldenrod, green ash, multiflora rose, paper birch, red maple, reed canary grass and speckled alder. | 14w, 15w, 15bw, 15cw | Medium | | X |
| W16 | 1 | 0.41 | Wet Meadow | Wet Meadow | N/A | Wet meadow wetland. Dominant plant species include reed canary grass. | 16w, 17w | Low | | X |
| W21 | 4 | 0.02 | Seasonally Flooded Basin | Alder Thicket | N/A | Seasonally flooded basin. Dominant plant species include Japanese barberry and speckled alder. | 21dw | High | | X |
| W26 | 1 | 0.05 | Wet Meadow | Wet Meadow | N/A | Wet meadow wetland. Dominant plant species include box elder, Canadian goldenrod, giant goldenrod, green ash and reed canary grass. | 26w | Medium | | X |

Wetland Rapid Assessment Methodology Forms (WRAM) are included in Appendix F.

Appendix F – Wetland Rapid Assessment Methodology Forms (WRAM)

R:\Vp\Other_POC\193703078_Excel_Engl_Kohler_CofA\07_19_2015\Map\Figure.mxd Revised: 2015-03-19 By: mpc/cher



Legend

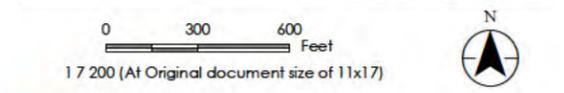
- Approximate Project Boundary
- Existing Trail
- Field Delineated Wetland
- 100m Wetland Buffer
- Botanical Community (total acres [degraded acres])
- AT - Alder Thicket (38.4ac [7.7ac degraded])
- HS - Hardwood Swamp (50.1ac [18.9ac degraded])
- HS/FS - Hardwood Swamp/Forested Seep (13.1ac)
- IW - Interdunal Wetland (0.3ac)
- OW - Open Water (2.9ac)
- SWC - Swale Wetland Complex (5.3ac)
- WM - Wet Meadow (13.8ac [8.1ac degraded])
- Degraded Area (d)*

- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody

Figure No. **5**
 Title **Wisconsin Wetland Rapid Assessment Area and 100-m Buffer**

Client/Project
 Kohler Company
 Proposed Golf Course - Town of Wilson

Project Location 193703078
 T14N R23E S11: 14 Prepared by MCP on 2014-11-06
 T of Wilson Sheboygan Co WI Technical Review by JS on 2014-11-06
 Independent Review by JG on 2015-03-19



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec Excel WDNR WDOT
 3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents from any and all claims arising in any way from the content or provision of the data.

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NW4; SW4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town/City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Gb, Ag, Hu, An, Pa | WWI Class: T3K, T3/E1K, T3/S3K | | |
| Field Verified: Y | Wetland Type(s): Alder Thicket | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 30.7 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 30.7 acres | Wetland Area Impacted NA |
| Wetland Size: 30.7 acres | Wetland Area Impacted NA | | |
| Hydrology: seasonal or permanent high water table and/or saturation, as evidenced by water table at depth of 10", and saturation at 6" measured on 8/14/14. Located in floodplains and drainageways. | Vegetation/Plant Community Description(s): Alder thicket occurs extensively within the Black River floodplain. The community is characterized by a shrub stratum of speckled alder (<i>Alnus incana</i>), and a herbaceous groundlayer. Occasional trees of green and black ash occur, but do not exceed 30% canopy. | | |

SITE MAP

| |
|---------------------|
| See Attached Figure |
|---------------------|

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park; Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | Y | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | Y* | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | N* | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | Y | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N* | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|---------------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| |
| HU 6. TES species onsite, e.g. blue-winged teal; wetlands provide or support TES species habitat functions. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species with suitable habitat include kingfisher, tufted titmouse |
| WH 12. Alder Thicket is relatively infrequent within surrounding agricultural and urban context. |
| WQ 6. Dense reed canary grass may indicate excess nutrient inputs from upstream sources. |
| WQ 7. Upstream inputs into Black River affect Alder Thicket, but groundwater is main hydrology source. |
| GW 1. Indicators of groundwater discharge include vegetation, saturation at or near the surface, and shallow water table. |
| GW 4. Wetland soils include organic and mineral components. |
| GW 5. Sheboygan Water Utilities use Lake Michigan as source. |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|-----------------------------------------------------------------------------------------------|
| Y | | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/ pine plantation/visual |
| N | Y | Black-capped chickadee/ pine plantation/visual |
| Y | | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/ pine plantation/visual |
| N | Y | Blue jay/pine plantation/visual |
| N | Y | Northern long-eared bat/mature tree canopy near water |
| N | Y | Red-shouldered hawk/hardwood swamp |
| Y | | Blue-winged teal/Black River channel/visual |
| Y | | Snapping turtle/Black River channel/visual |
| Y | | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
| N | Y | Bald eagle/near water/ previous onsite observations |
| N | Y | Blue-spotted Salamander/ swale wetland, hardwood swamp forested seep/visual, under logs |
| N | Y | Eastern Red-backed Salamander/ swale wetland, hardwood swamp forested seep/visual, under logs |
| | | |
| | | |
| | | |
| | | |
| | | |

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|----------------------------------------------|
| | | See above for aquatic species (frog, turtle) |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | Y | Y | L | UC | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | Y | Y | M | UC | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | Y | L | C | Point source or stormwater discharge |
| Y | Y | Y | L | C | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | Y | L | UC | Agriculture – pasture |
| N | Y | Y | L | UC | Roads or railroad |
| N | Y | N | n/a | n/a | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| N | Y | Y | M | UC | Sediment input |
| N | Y | N | L | UC | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | Y | Y | L | UC | Removal of tree or shrub strata – logging, unprescribed fire |
| Y | Y | Y | L | UC | Human trails – unpaved |
| N | Y | N | n/a | n/a | Human trails – paved |
| N | Y | Y | L | UC | Removal of large woody debris |
| Y | Y | Y | L/M | UC/C | Cover of non-native and/or invasive species |
| N | Y | N | M | C | Residential land use |
| N | Y | N | M | C | Urban, commercial or industrial use |
| N | Y | N | L | UC | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| Y | Y | Y | M | C | Recreational use (boating, ATVs, etc.) |
| N | Y | N | n/a | n/a | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

| |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The alder thicket is in moderate to good condition, occurring as a component in a complex of Black River floodplain wetlands. The most significant stressors appear to be inflows of silt and excess nutrients from sources upstream in the Black River and tributaries, and the cover of non-native species, primarily reed canary grass. Historic agricultural use occurred within the buffer area, probably limited to pasture, but current impacts are minimal. Recreational usage is limited to the unpaved trails that run through the State Park Portion of the area; access through the Alder Thicket on foot is difficult. |
| |
| |
| |
| |

SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | | Y | | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | | Y | | |
| Fish and Aquatic Life Habitat | | | Y | | |
| Shoreline Protection | | | Y | | |
| Flood and Stormwater Storage | | | Y | | |
| Water Quality Protection | | | Y | | |
| Groundwater Processes | | | Y | | |

| FUNCTION | RATIONALE |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | There is a moderate level of species diversity, presence of heterogeneous, adjacent plant communities, and presence of two or three vegetation strata. Some conservative species were present, but rare plant species were lacking. Invasive species occur within this community at moderate to high levels of coverage. |
| Human Use Values | Public access to the State Park portion of the site is available, but the Alder Thicket is not likely to be used extensively for recreation, hiking, or education. Archaeological resources occur in adjacent areas, and might occur in this community. The alder thicket may offer hunting, birding, and nature study opportunities. |
| Wildlife Habitat | The combination of a diversity of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. A number of species of fauna were observed, are known to occur, or could potentially occur in or adjacent to alder thicket, especially amphibians and birds. |
| Fish and Aquatic Life Habitat | The Black River and surrounding wetland and upland plant communities provide significant habitat for fish and aquatic life. The river and its tributaries have been somewhat impacted by agricultural and stormwater runoff, but retain a healthy aquatic plant community and is likely important for fish spawning, waterfowl, and amphibians. |
| Shoreline Protection | The alder thickets adjacent to the Black River contribute vegetative cover along the banks, offering shoreline protection, which has a significant positive effect for the river and downstream communities. |
| Flood and Stormwater Storage | The wetlands within the Black River floodplain and surrounding areas provide significant value in storing and attenuating peak flows in the river, which may have a positive impact on reducing flooding downstream. |
| Water Quality Protection | The wetlands surrounding the Black River provide significant value to protecting water quality within the Black River and Lake Michigan. Water quality in the Black River and its tributaries has been negatively impacted by runoff from residential and agricultural areas upstream. |
| Groundwater Processes | The site retains essentially intact groundwater processes, including groundwater recharge and discharge areas, which has beneficial effects on surface and groundwater quality. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction may alter wetland hydrology; increased runoff/nutrient loading; resulting in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | High |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | High |
| Spatial/Habitat Integrity Proposed project may result in fragmentation of habitat blocks. | Habitat fragmentation would be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure may result in loss or degradation of rare plant communities and rare plant/animal habitats. | No rare plants or plant communities were identified within the alder thicket; it likely supports habitat for rare animals, e.g., blue-winged teal. | Medium |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Alder Thicket

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|----------------------------------|--------------------------|------------|-------------|-----------------------------|------------------------------|
| <i>Alliaria petiolata</i> | invasive garlic mustard | non-native | forb | 0 | 3 |
| <i>Alnus incana</i> | speckled alder | native | tree | 4 | -3 |
| <i>Amphicarpaea bracteata</i> | american hog-peanut | native | vine | 5 | 0 |
| <i>Arisaema triphyllum</i> | jack-in-the-pulpit | native | forb | 5 | 0 |
| <i>Asclepias incarnata</i> | marsh milkweed | native | forb | 5 | -5 |
| <i>Athyrium angustum</i> | common lady fern | native | fern | 5 | 0 |
| <i>Boehmeria cylindrica</i> | small-spike false nettle | native | forb | 6 | -5 |
| <i>Calamagrostis canadensis</i> | blue-joint grass | native | grass | 5 | -5 |
| <i>Carex lacustris</i> | common lake sedge | native | sedge | 6 | -5 |
| <i>Carex stricta</i> | hummock sedge | native | sedge | 7 | -5 |
| <i>Carex tuckermanii</i> | bent-seeded hop sedge | native | sedge | 8 | -5 |
| <i>Chelone glabra</i> | turtlehead | native | forb | 7 | -5 |
| <i>Dryopteris cristata</i> | crested shield fern | native | fern | 7 | -5 |
| <i>Echinocystis lobata</i> | balsam-apple | native | vine | 2 | -3 |
| <i>Elymus virginicus</i> | virginia wild-rye | native | grass | 6 | -3 |
| <i>Epilobium coloratum</i> | cinnamon willow-herb | native | forb | 3 | -5 |
| <i>Eutrochium maculatum</i> | spotted joe-pye-weed | native | forb | 4 | -5 |
| <i>Fraxinus nigra</i> | black ash | native | tree | 8 | -3 |
| <i>Fraxinus pennsylvanica</i> | green ash | native | tree | 2 | -3 |
| <i>Geum canadense</i> | white avens | native | forb | 2 | 0 |
| <i>Glechoma hederacea</i> | creeping-charlie | non-native | forb | 0 | 3 |
| <i>Glyceria grandis</i> | american manna grass | native | grass | 6 | -5 |
| <i>Glyceria striata</i> | fowl manna grass | native | grass | 4 | -5 |
| <i>Helenium autumnale</i> | common sneezeweed | native | forb | 4 | -3 |
| <i>Hesperis matronalis</i> | dames rocket | non-native | forb | 0 | 3 |
| <i>Ilex verticillata</i> | common winterberry | native | shrub | 7 | -3 |
| <i>Impatiens capensis</i> | orange jewelweed | native | forb | 2 | -3 |
| <i>Iris virginica</i> | southern blue flag | native | forb | 5 | -5 |
| <i>Juncus effusus</i> | soft rush | native | rush | 4 | -5 |
| <i>Laportea canadensis</i> | canadian wood-nettle | native | forb | 4 | -3 |
| <i>Lycopus uniflorus</i> | northern bugleweed | native | forb | 4 | -5 |
| <i>Lysimachia ciliata</i> | fringed loosestrife | native | forb | 5 | -3 |
| <i>Matteuccia struthiopteris</i> | ostrich fern | native | fern | 5 | 0 |
| <i>Mentha arvensis</i> | wild mint | native | forb | 3 | -3 |
| <i>Myosotis scorpioides</i> | common forget-me-not | non-native | forb | 0 | -5 |
| <i>Onoclea sensibilis</i> | sensitive fern | native | fern | 5 | -3 |
| <i>Osmunda spectabilis</i> | american royal fern | native | fern | 7 | -5 |
| <i>Osmundastrum cinnamomeum</i> | cinnamon fern | native | fern | 7 | -3 |
| <i>Pedicularis lanceolata</i> | fen betony | native | forb | 8 | -3 |
| <i>Persicaria amphibia</i> | water smartweed | native | forb | 5 | -5 |
| <i>Persicaria sagittata</i> | arrow-leaved tear-thumb | native | forb | 6 | -5 |
| <i>Phalaris arundinacea</i> | reed canary grass | non-native | grass | 0 | -3 |
| <i>Pilea pumila</i> | canadian clearweed | native | forb | 3 | -3 |
| <i>Ranunculus hispidus</i> | hispid buttercup | native | forb | 6 | 0 |
| <i>Rosa palustris</i> | swamp rose | native | shrub | 7 | -5 |
| <i>Rumex obtusifolius</i> | bitter dock | non-native | forb | 0 | 0 |
| <i>Sagittaria latifolia</i> | broad-leaved arrowhead | native | forb | 3 | -5 |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Alder Thicket

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|--------------------------|----------------------------|------------|-------------|-----------------------------|------------------------------|
| Salix amygdaloides | peach-leaved willow | native | tree | 4 | -3 |
| Salix interior | sandbar willow | native | shrub | 2 | -3 |
| Scutellaria galericulata | marsh skullcap | native | forb | 5 | -5 |
| Sium suave | hemlock water-parsnip | native | forb | 5 | -5 |
| Solanum dulcamara | bittersweet nightshade | non-native | vine | 0 | 0 |
| Solidago gigantea | giant goldenrod | native | forb | 3 | -3 |
| Stachys tenuifolia | narrow-leaved hedge-nettle | native | forb | 6 | -3 |
| Symphotrichum ontarionis | bottomland aster | native | forb | 6 | 0 |
| Symphotrichum puniceum | purple-stem aster | native | forb | 5 | -5 |
| Symplocarpus foetidus | skunk-cabbage | native | forb | 8 | -5 |
| Taraxacum officinale | common dandelion | non-native | forb | 0 | 3 |
| Thelypteris palustris | eastern marsh fern | native | fern | 7 | -3 |
| Typha latifolia | broad-leaved cat-tail | native | forb | 1 | -5 |
| Urtica dioica | stinging nettle | native | forb | 1 | 0 |
| Viburnum lentago | nannyberry | native | tree | 4 | 0 |

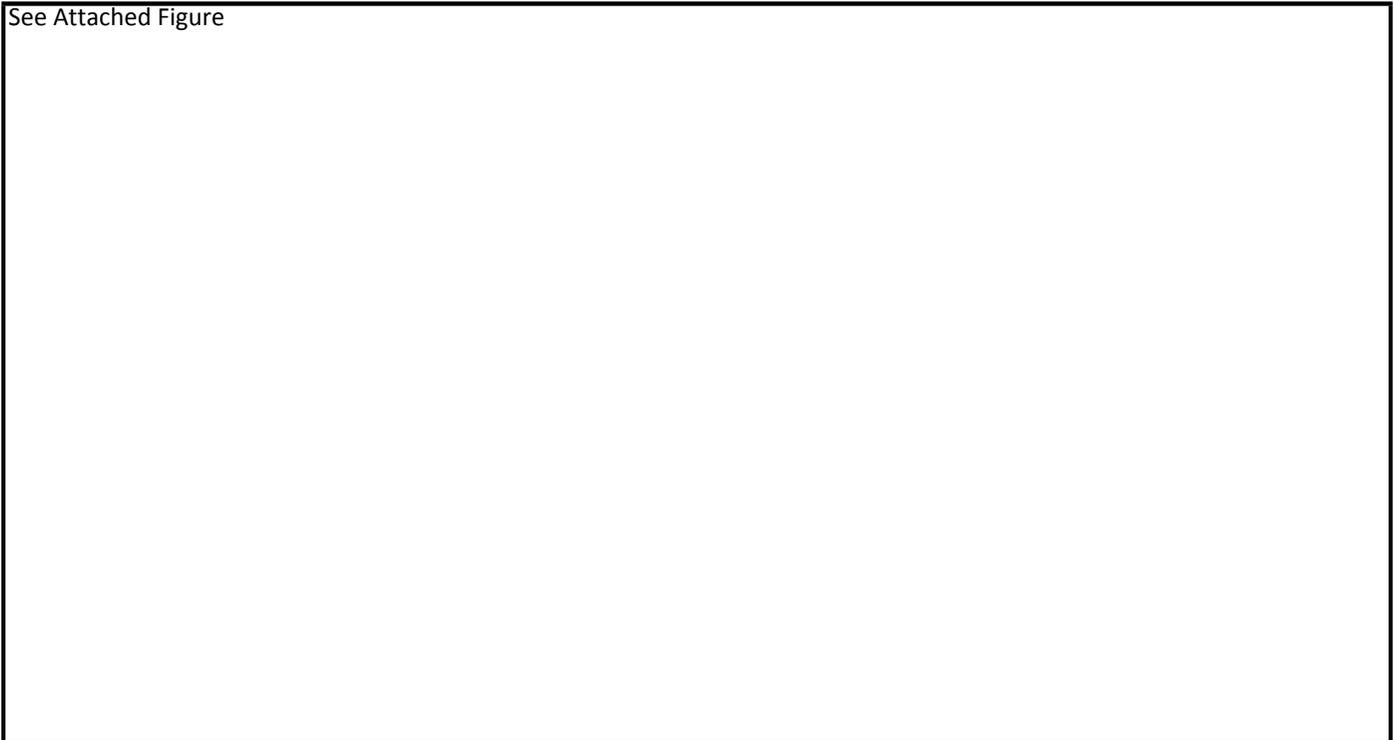
| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 54 | 4.9 | 36.0 |
| All Species | 62 | 4.3 | 33.9 |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NW4; SW4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town/City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Pa, An | WWI Class: T3K | | |
| Field Verified: Y | Wetland Type(s): Alder Thicket, degraded | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 7.7 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 7.7 acres | Wetland Area Impacted NA |
| Wetland Size: 7.7 acres | Wetland Area Impacted NA | | |
| Hydrology: seasonal or permanent high water table and/or saturation; drainageway, stream with flashy hydrology due to stormwater runoff. | Vegetation/Plant Community Description(s): Degraded Alder thicket occurs in the northwestern portion of the State Property along a tributary to the Black River. The community is characterized by a dense shrub stratum of alder, tree layer of scattered green ash, and a herbaceous groundlayer dominated by invasives. | | |

SITE MAP

See Attached Figure



SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | N | | Ephemeral pond with water present > 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | Y | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | Y | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | Y | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | N | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | Y* | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | Y* | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | Y | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | N | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N* | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|-------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| |
| HU 6. Wetlands provide or support TES species habitat functions. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species with suitable habitat, e.g., tufted titmouse |
| WH 12. Alder Thicket is relatively infrequent within surrounding agricultural and urban context. |
| WQ 6. Siltation, reed canary grass suggest excess nutrient inputs from upstream sources. |
| WQ 7. Upstream watershed is primarily agricultural and residential; receives substantial stormwater, silt inputs. |
| |
| GW 4. Wetland soils include organic and mineral components. |
| GW 5. Sheboygan Water Utilities use Lake Michigan as source. |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|-----------------------------------------------------------------------------------------------|
| N | Y | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/ pine plantation/visual |
| N | Y | Black-capped chickadee/ pine plantation/visual |
| N | Y | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/ pine plantation/visual |
| N | Y | Blue jay/pine plantation/visual |
| N | Y | Northern long-eared bat/mature trees with nearby water |
| N | Y | Red-shouldered hawk/hardwood swamp |
| N | Y | Blue-winged teal/Black River channel/visual |
| | | |
| N | Y | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
| N | Y | Bald eagle/near water/ previous onsite observations |
| N | Y | Blue-spotted Salamander/ swale wetland, hardwood swamp forested seep/visual, under logs |
| N | Y | Eastern Red-backed Salamander/ swale wetland, hardwood swamp forested seep/visual, under logs |
| | | |
| | | |
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Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|-----------------|
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SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | N | Y | L | UC | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | Y | Y | H | C | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | Y | H | C | Point source or stormwater discharge |
| Y | Y | Y | L | C | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | Y | L | UC | Agriculture – pasture |
| Y | Y | Y | H | C | Roads or railroad |
| N | Y | N | n/a | n/a | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| Y | Y | Y | H | C | Sediment input |
| N | Y | N | n/a | n/a | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | Y | Y | L | UC | Removal of tree or shrub strata – logging, unprescribed fire |
| N | Y | Y | L | UC | Human trails – unpaved |
| N | N | N | n/a | n/a | Human trails – paved |
| N | Y | Y | L | UC | Removal of large woody debris |
| Y | Y | Y | H | C | Cover of non-native and/or invasive species |
| N | Y | Y | M | C | Residential land use |
| N | Y | N | n/a | n/a | Urban, commercial or industrial use |
| N | N | N | n/a | n/a | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| N | Y | N | n/a | n/a | Recreational use (boating, ATVs, etc.) |
| N | Y | N | n/a | n/a | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
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* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

| |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The degraded alder thicket is generally in fair to poor condition. |
| The most significant stressors appear to be inflows of silt and excess nutrients from sources upstream; dominance in the groundlayer by non-native species. Historic agricultural use occurred within the buffer area, probably limited to pasture, but current impacts are minimal. Recreational usage is limited to the unpaved trails that run in the vicinity of the area; access through the Alder Thicket on foot is difficult. |
| The functional value of this community is reduced due to the low coverage of native or perennial plants in the understory, the erosion and depth of the stream channel conduct water through the area quickly, rather than allowing for storage. |
| |
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| |

SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | Y | | | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | Y | | | | |
| Fish and Aquatic Life Habitat | Y | | | | |
| Shoreline Protection | | Y | | | |
| Flood and Stormwater Storage | Y | | | | |
| Water Quality Protection | Y | | | | |
| Groundwater Processes | Y | | | | |

| FUNCTION | RATIONALE |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | There is a low level of species diversity, adjacent upland and degraded plant communities, and presence of two or three vegetation strata. Highly conservative/rare plant species were lacking, and high levels of invasive species dominate the groundlayer within this community. |
| Human Use Values | Public access to the State Park portion of the site is available, but the Alder Thicket is not likely to be used extensively for recreation, hiking, or education. Archaeological resources occur in adjacent areas, and might occur in this community. |
| Wildlife Habitat | The small size and fragmentation of habitat lowers the site's value for wildlife. A number of species of fauna were observed, are known to occur, or could potentially occur in or adjacent to the degraded alder thicket, and the community may provide a corridor for wildlife including generalist mammals and birds. |
| Fish and Aquatic Life Habitat | The degraded alder thicket probably has little potential value for fish and aquatic life, due to the flashy nature of stream flows and degraded water quality due to stormwater and agricultural runoff. |
| Shoreline Protection | The degraded alder thicket may offer some shoreline protection through the vegetative cover along the banks, however the flashy nature of stream flows have resulted in significant erosion and undercutting of the banks. |
| Flood and Stormwater Storage | The degraded alder thicket offers limited capacity for storing and attenuating peak flows in the adjacent stream, because the deep channel serves to conduct water through rather than allowing floodwaters to spread out. |
| Water Quality Protection | The degraded alder thicket provides limited value in protecting water quality within the Black River watershed. Water quality in the Black River and its tributaries has been negatively impacted by runoff from residential and agricultural areas upstream. |
| Groundwater Processes | Groundwater processes within the degraded alder thicket may include groundwater recharge and discharge, which may provide limited benefits to surface and groundwater quality. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | Low |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction may alter wetland hydrology; increased runoff/nutrient loading; resulting in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | Low |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | Medium |
| Spatial/Habitat Integrity Proposed project may result in fragmentation of habitat blocks. | Habitat fragmentation would be permanent. | Medium |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure may result in loss or degradation of rare plant communities and rare plant/animal habitats. | No rare plants or plant communities were identified within the degraded alder thicket. | Low |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NW4; SW4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town/City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Gb, Ag, Hu, An | WWI Class: T3K | | |
| Field Verified: Y | Wetland Type(s): Hardwood Swamp | | |
| Hydrology: seasonal or permanent high water table and/or saturation, as evidenced by water table at depth of 8", and surface saturation measured on 8/13/14. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 31.2 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 31.2 acres | Wetland Area Impacted NA |
| Wetland Size: 31.2 acres | Wetland Area Impacted NA | | |
| | Vegetation/Plant Community Description(s): Hardwood Swamp is characterized by a canopy of green and black ash, a scattered shrub layer of speckled alder and a herbaceous groundlayer of forbs and grasses. | | |

SITE MAP

| |
|---------------------|
| See Attached Figure |
|---------------------|

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park; Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present > 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | Y | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | Y* | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | N* | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | Y | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N* | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|---------------------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| |
| HU 6. TES species onsite include blue-winged teal; wetlands likely provide or support additional TES species habitat functions. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species onsite, e.g., blue-winged teal, kingfisher, tufted titmouse |
| WH 12. Hardwood Swamp is relatively infrequent within surrounding agricultural and urban context. |
| WQ 6. Dense reed canary grass may indicate excess nutrient inputs from upstream sources; but no excess algae/macrophytes. |
| WQ 7. Upstream inputs into Black River include surface runoff from agricultural and residential areas; but not primary source. |
| GW 1. Indicators of groundwater include vegetation, saturation at or near the surface, and shallow water table. |
| GW 4. Wetland soils include organic and mineral components. |
| GW 5. Sheboygan Water Utilities use Lake Michigan as source. |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|----------------------------------------------------------------------------------------------|
| Y | | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/ pine plantation/visual |
| N | Y | Black-capped chickadee/ pine plantation/visual |
| Y | | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/ pine plantation/visual |
| N | Y | Blue jay/pine plantation/visual |
| N | Y | Northern long-eared bat/mature tree canopy with nearby water |
| N | Y | Red-shouldered hawk/hardwood swamp |
| Y | | Blue-winged teal/Black River channel/visual |
| Y | | Snapping turtle/Black River channel/visual |
| Y | | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
| N | Y | Bald eagle/near water/ previous onsite observations |
| Y | | Blue-spotted Salamander/ vernal pools, hardwood swamp forested seep/visual, under logs |
| Y | | Eastern Red-backed Salamander/ vernal pools, hardwood swamp forested seep/visual, under logs |
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Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|----------------------------------------------|
| | | See above for aquatic species (frog, turtle) |
| | | |
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SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | N | N | n/a | n/a | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | Y | Y | M | UC | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | Y | M | UC | Point source or stormwater discharge |
| Y | Y | Y | M | C | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | Y | L | UC | Agriculture – pasture |
| N | Y | N | L | UC | Roads or railroad |
| N | Y | N | n/a | n/a | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| Y | Y | Y | M | UC | Sediment input |
| N | Y | Y | L | UC | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | Y | Y | L | UC | Removal of tree or shrub strata – logging, unprescribed fire |
| Y | Y | Y | L | UC | Human trails – unpaved |
| N | Y | N | n/a | n/a | Human trails – paved |
| N | Y | Y | L | UC | Removal of large woody debris |
| Y | Y | Y | M | C | Cover of non-native and/or invasive species |
| N | Y | N | L | UC | Residential land use |
| N | Y | N | n/a | n/a | Urban, commercial or industrial use |
| N | Y | N | n/a | n/a | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| Y | Y | N | L | C | Recreational use (boating, ATVs, etc.) |
| N | Y | Y | L | UC | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The hardwood swamp is generally in moderate to good condition, with the majority of stressors either absent or limited to the buffer. The most significant stressors appear to be siltation and excess nutrients from sources upstream in the Black R. and tributaries, and the cover of non-native species, primarily reed canary grass. Historic agricultural use within the buffer was probably limited to pasture, but current impacts are minimal. Recreational usage is limited to the unpaved trails that run through the State Park Portion of the area. |
| |
| |
| |
| |
| |

SUMMARY OF FUNCTIONAL VALUES (for both components unless otherwise noted)

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | | | Y | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | | Y | | |
| Fish and Aquatic Life Habitat | | | Y | | |
| Shoreline Protection | | | Y | | |
| Flood and Stormwater Storage | | | Y | | |
| Water Quality Protection | | | Y | | |
| Groundwater Processes | | | Y | | |

| FUNCTION | RATIONALE |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | The Hardwood Swamp has a high level of species diversity, presence of heterogeneous, adjacent plant communities, and presence of three vegetation strata. Highly conservative/rare plant species were lacking, and moderate to high levels of invasive species occur. |
| Human Use Values | Public access to the State Park portion of the site provides substantial value for recreation, hiking, and education, and archaeological resources on the site have historical significance. While there are trails through the wetland areas, they are probably underused by the public compared with the beach and dune areas. |
| Wildlife Habitat | The diversity of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. A number of species were observed, are known to occur, or could occur onsite, including rare, protected, SGCN, and Priority Species, e.g. blue-winged teal. |
| Fish and Aquatic Life Habitat | The Black River and surrounding wetland and upland plant communities provide significant habitat for fish and aquatic life. The river and its tributaries have been impacted by agricultural and stormwater runoff, but retain a healthy aquatic plant community that is likely to support fish, waterfowl, and amphibians. |
| Shoreline Protection | The hardwood swamp provides vegetative cover along the banks of the Black River, offering shoreline protection, which has a significant positive effect for the river and downstream communities. |
| Flood and Stormwater Storage | The hardwood swamp within the Black River floodplain and surrounding areas provide significant value in storing floodwater and attenuating peak flows in the river, which may have a positive impact on reducing flooding downstream. |
| Water Quality Protection | The hardwood swamp surrounding the Black River provides significant value in protecting water quality within the Black River and Lake Michigan. Water quality in the Black River and its tributaries has been negatively impacted by runoff from residential and agricultural areas upstream. |
| Groundwater Processes | The hardwood swamp retains important groundwater function, including recharge and discharge, which has beneficial effects on surface and groundwater quality. Surface water inputs are probably significant during peak flows on the Black River, but groundwater is the primary source of hydrology year-round. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts (significance for both components unless otherwise noted)

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Direct Impacts Road fill and construction of infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction may alter wetland hydrology; increased runoff/nutrient loading; resulting in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | High |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | High |
| Spatial/Habitat Integrity Proposed project may result in fragmentation of habitat blocks. | Habitat fragmentation is expected to be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure may result in loss or degradation of rare plant communities including Great Lakes Ridge and Swale and interdunal wetland. | Loss of rare plant communities is expected to be permanent and irreversible; some species are likely to be supported by Hardwood Swamp. | Medium |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Hardwood Swamp

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|--------------------------|----------------------------|------------|-------------|-----------------------------|------------------------------|
| Acer rubrum | red maple | native | tree | 3 | 0 |
| Achillea millefolium | common yarrow | native | forb | 1 | 3 |
| Agrimonia gryposepala | common agrimony | native | forb | 2 | 3 |
| Alnus incana | speckled alder | native | tree | 4 | -3 |
| Amphicarpaea bracteata | american hog-peanut | native | vine | 5 | 0 |
| Arisaema triphyllum | jack-in-the-pulpit | native | forb | 5 | 0 |
| Asclepias incarnata | marsh milkweed | native | forb | 5 | -5 |
| Asclepias syriaca | common milkweed | native | forb | 1 | 5 |
| Athyrium angustum | common lady fern | native | fern | 5 | 0 |
| Berberis thunbergii | japanese barberry | non-native | shrub | 0 | 3 |
| Betula allegheniensis | yellow birch | native | tree | 7 | 0 |
| Betula papyrifera | paper birch | native | tree | 3 | 3 |
| Bidens frondosa | common beggar-ticks | native | forb | 1 | -3 |
| Blephilia hirsuta | hairy wood mint | native | forb | 7 | 3 |
| Boehmeria cylindrica | small-spike false nettle | native | forb | 6 | -5 |
| Bromus latiglumis | ear-leaved brome | native | grass | 6 | -3 |
| Calamagrostis canadensis | blue-joint grass | native | grass | 5 | -5 |
| Carex cristatella | crested oval sedge | native | sedge | 4 | -3 |
| Carex intumescens | greater bladder sedge | native | sedge | 5 | -3 |
| Carex lupulina | common hop sedge | native | sedge | 6 | -5 |
| Carex radiata | straight-styled wood sedge | native | sedge | 4 | 0 |
| Carex stricta | hummock sedge | native | sedge | 7 | -5 |
| Carex tuckermanii | bent-seeded hop sedge | native | sedge | 8 | -5 |
| Cicuta maculata | common water-hemlock | native | forb | 6 | -5 |
| Cinna arundinacea | common wood-reed | native | grass | 5 | -3 |
| Cirsium arvense | canada thistle | non-native | forb | 0 | 3 |
| Clematis virginiana | virgins-bower | native | vine | 4 | 0 |
| Cornus alba | red-osier dogwood | native | shrub | 3 | -3 |
| Crataegus punctata | dotted hawthorn | native | tree | 2 | 5 |
| Cryptotaenia canadensis | canadian honewort | native | forb | 4 | 0 |
| Dactylis glomerata | orchard grass | non-native | grass | 0 | 3 |
| Dryopteris carthusiana | spinulose wood fern | native | fern | 7 | -3 |
| Elymus virginicus | virginia wild-rye | native | grass | 6 | -3 |
| Epilobium coloratum | cinnamon willow-herb | native | forb | 3 | -5 |
| Equisetum arvense | common horsetail | native | fern ally | 1 | 0 |
| Eurybia macrophylla | large-leaved aster | native | forb | 4 | 5 |
| Eutrochium maculatum | spotted joe-pye-weed | native | forb | 4 | -5 |
| Fagus grandifolia | american beech | native | tree | 8 | 3 |
| Fragaria virginiana | wild strawberry | native | forb | 1 | 3 |
| Fraxinus nigra | black ash | native | tree | 8 | -3 |
| Fraxinus pennsylvanica | green ash | native | tree | 2 | -3 |
| Geum canadense | white avens | native | forb | 2 | 0 |
| Glyceria striata | fowl manna grass | native | grass | 4 | -5 |
| Helenium autumnale | common sneezeweed | native | forb | 4 | -3 |
| Hesperis matronalis | dames rocket | non-native | forb | 0 | 3 |
| Ilex verticillata | common winterberry | native | shrub | 7 | -3 |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Hardwood Swamp

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|-----------------------------------------------|--------------------------|------------|-------------|-----------------------------|------------------------------|
| <i>Impatiens capensis</i> | orange jewelweed | native | forb | 2 | -3 |
| <i>Iris virginica</i> | southern blue flag | native | forb | 5 | -5 |
| <i>Juncus effusus</i> | soft rush | native | rush | 4 | -5 |
| <i>Juniperus communis</i> | common juniper | native | shrub | 3 | 3 |
| <i>Laportea canadensis</i> | canadian wood-nettle | native | forb | 4 | -3 |
| <i>Leersia oryzoides</i> | rice cut grass | native | grass | 3 | -5 |
| <i>Lobelia siphilitica</i> | great blue lobelia | native | forb | 5 | -3 |
| <i>Lycopus uniflorus</i> | northern bugleweed | native | forb | 4 | -5 |
| <i>Matteuccia struthiopteris</i> | ostrich fern | native | fern | 5 | 0 |
| <i>Mentha arvensis</i> | wild mint | native | forb | 3 | -3 |
| <i>Myosotis scorpioides</i> | common forget-me-not | non-native | forb | 0 | -5 |
| <i>Onoclea sensibilis</i> | sensitive fern | native | fern | 5 | -3 |
| <i>Osmorhiza longistylis</i> | smooth sweet cicely | native | forb | 4 | 3 |
| <i>Osmunda claytoniana</i> | interrupted fern | native | fern | 6 | 0 |
| <i>Parthenocissus quinquefolia</i> | virginia creeper | native | vine | 5 | 3 |
| <i>Pedicularis lanceolata</i> | fen betony | native | forb | 8 | -3 |
| <i>Phalaris arundinacea</i> | reed canary grass | non-native | grass | 0 | -3 |
| <i>Phleum pratense</i> | timothy | non-native | grass | 0 | 3 |
| <i>Picea glauca</i> | white spruce | native | tree | 7 | 3 |
| <i>Pinus strobus</i> | eastern white pine | native | tree | 5 | 3 |
| <i>Populus deltoides</i> | eastern cottonwood | native | tree | 2 | 0 |
| <i>Populus tremuloides</i> | quaking aspen | native | tree | 2 | 0 |
| <i>Prunella vulgaris</i> ssp. <i>vulgaris</i> | european heal-all | non-native | forb | 0 | 0 |
| <i>Prunus serotina</i> | wild black cherry | native | tree | 3 | 3 |
| <i>Quercus macrocarpa</i> | bur oak | native | tree | 5 | 3 |
| <i>Ranunculus acris</i> | tall european buttercup | non-native | forb | 0 | 0 |
| <i>Ranunculus hispidus</i> | hispid buttercup | native | forb | 6 | 0 |
| <i>Ranunculus recurvatus</i> | hooked buttercup | native | forb | 5 | -3 |
| <i>Rosa multiflora</i> | multiflora invasive rose | non-native | shrub | 0 | 3 |
| <i>Rubus allegheniensis</i> | common blackberry | native | shrub | 2 | 3 |
| <i>Rubus idaeus</i> var. <i>strigosus</i> | american red raspberry | native | shrub | 3 | 3 |
| <i>Sanicula odorata</i> | cluster sanicle | native | forb | 3 | 0 |
| <i>Sium suave</i> | hemlock water-parsnip | native | forb | 5 | -5 |
| <i>Solanum dulcamara</i> | bittersweet nightshade | non-native | vine | 0 | 0 |
| <i>Solidago flexicaulis</i> | zigzag goldenrod | native | forb | 6 | 3 |
| <i>Solidago gigantea</i> | giant goldenrod | native | forb | 3 | -3 |
| <i>Spiraea alba</i> | white meadowsweet | native | shrub | 4 | -3 |
| <i>Symphotrichum novae-angliae</i> | new england aster | native | forb | 3 | -3 |
| <i>Symphotrichum ontarionis</i> | bottomland aster | native | forb | 6 | 0 |
| <i>Symplocarpus foetidus</i> | skunk-cabbage | native | forb | 8 | -5 |
| <i>Taraxacum officinale</i> | common dandelion | non-native | forb | 0 | 3 |
| <i>Thalictrum dasycarpum</i> | tall meadow-rue | native | forb | 4 | -3 |
| <i>Thuja occidentalis</i> | eastern white cedar | native | tree | 9 | -3 |
| <i>Urtica dioica</i> | stinging nettle | native | forb | 1 | 0 |
| <i>Viburnum lentago</i> | nannyberry | native | tree | 4 | 0 |
| <i>Viola sororia</i> | common blue violet | native | forb | 3 | 0 |

| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 80 | 4.4 | 39.4 |
| All Species | 92 | 3.8 | 36.4 |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 |
| Location: PLSS: T14N, R23E S14 NW4 | Ecological Landscape: Central Lake Michigan Coastal |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 |
| County: Sheboygan Town/City/Village: Wilson | |
| SITE DESCRIPTION | |
| Soils: Mapped Type(s): Gb, Ag, Pa, An | WWI Class: T3K |
| | Wetland Type(s): Hardwood Swamp, degraded |
| Field Verified: Y | Wetland Size: 18.9 acres Wetland Area Impacted: NA |
| Hydrology: saturation, dry season water table and geomorphic position within shallow depressions are typical, as evidenced by saturation at 9 in and water table at 13 in., measured on 8/13/2014. | Vegetation/ Plant Community Description(s): The degraded Hardwood Swamp is characterized by green ash canopy and a dense shrub layer dominated by invasive Japanese barberry and multiflora rose, and an invasive-dominated groundlayer. This community occurs west of the Black River, in depressions and drainageways on the State Property. |

SITE MAP

See Attached Figure

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park; Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | Y | | Seasonally exposed mudflats present |
| 12 | Y | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y* | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | Y* | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | N | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | Y* | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | Y* | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | Y | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N* | | Wetland is within a wellhead protection area |

SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | Y | | | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | Y | | | |
| Fish and Aquatic Life Habitat | Y | | | | |
| Shoreline Protection | Y | | | | |
| Flood and Stormwater Storage | | Y | | | |
| Water Quality Protection | | Y | | | |
| Groundwater Processes | | Y | | | |

| FUNCTION | RATIONALE |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | There is a low level of floristic diversity, and vegetation is primarily early successional with an open tree canopy and dense shrub layer. Highly conservative/rare plant species were lacking, and high levels of invasive species dominate the community. |
| Human Use Values | Public access to the State Park property allows for recreation, hiking. While there are trails through the wetland areas, the degraded hardwood swamp offers limited recreational potential. |
| Wildlife Habitat | The combination of a diversity of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. The presence of tree and shrub canopy provides suitable habitat for a variety of woodland bird and mammal species. |
| Fish and Aquatic Life Habitat | The Black River and surrounding wetland and upland plant communities provide significant habitat for fish and aquatic life. Tributary stream adjacent to this community has been impacted by stormwater runoff, and provides low quality aquatic habitat. |
| Shoreline Protection | The wetlands adjacent to the Black River tributary provide relatively consistent vegetative cover along the banks, offering limited shoreline protection and erosion control along a small section of bank, which has a positive effect for the river and downstream communities. |
| Flood and Stormwater Storage | The degraded hardwood swamp adjacent to the Black River tributary and in depressions west of the river offer limited value in storing and attenuating peak flows in the river, which may have a small positive impact on reducing flooding downstream. |
| Water Quality Protection | The degraded hardwood swamps adjacent to the Black River tributary and in depressions west of the river provide limited function in protecting water quality by allowing infiltration and absorbing runoff. Water quality in the Black River and its tributaries has been negatively impacted by runoff from residential and agricultural areas upstream. |
| Groundwater Processes | The degraded hardwood swamp retains groundwater functions, including groundwater recharge and discharge, which have beneficial effects on surface and groundwater quality. However, historical agricultural use and drainage may have altered groundwater processes in the depressions west of the river. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | Medium |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction may alter wetland hydrology; increased runoff/nutrient loading; resulting in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | Medium |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | |
| Spatial/Habitat Integrity Proposed project may result in fragmentation of habitat blocks. | Habitat fragmentation would be permanent. | Medium |
| Rare Plant/Animal Communities/ Natural Areas No rare Plant/Animal Communities were identified in the degraded Hardwood Swamp, and habitat value of the community is likely limited. | Loss of rare plant communities is not expected to occur within the degraded hardwood swamp community type. | Low |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NW4; SW4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town/City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Gb, Ag, Hu | WWI Class: T3K | | |
| Field Verified: Y | Wetland Type(s): Hardwood Swamp (Eggers & Reed), Forested Seep (NHI) | | |
| Hydrology: seasonal or permanent high water table and/or saturation, as evidenced by water table at depth of 8", and surface saturation measured on 8/13/14. Occurrence of skunk cabbage, surface saturation indicates groundwater discharge. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 13.1 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 13.1 acres | Wetland Area Impacted NA |
| Wetland Size: 13.1 acres | Wetland Area Impacted NA | | |
| | Vegetation/Plant Community Description(s): This community occurs on gentle slopes along edges of the Black River floodplain. Canopy dominants include yellow birch, green ash, red maple and beech. Understory is open, with skunk cabbage and ostrich fern. Tip ups are frequent, leading to formation of cradle knoll microtopography. | | |

SITE MAP

| |
|---------------------|
| See Attached Figure |
|---------------------|

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y* | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park; Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present > 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | N | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | N | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | N | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | N | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | N | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | Y | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N* | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|--------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| HU 3. State property west of the Black River is open to the public. |
| HU 6. TES species occurrences include blue-winged teal; wetlands provide or support TES species habitat functions. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species with suitable habitat include blue-winged-teal, tufted titmouse |
| WH 12. Forested Seep is uncommon within surrounding agricultural and urban context. |
| |
| |
| GW 1. Indicators of groundwater discharge include vegetation, saturation at or near the surface. |
| GW 4. Wetland soils include organic and mineral components. |
| GW 5. Sheboygan Water Utilities use Lake Michigan as source. |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|------------------------------------------------------------------------------------|
| Y | | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/ pine plantation/visual |
| N | Y | Black-capped chickadee/ pine plantation/visual |
| Y | | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/ pine plantation/visual |
| N | Y | Blue jay/pine plantation/visual |
| N | Y | Northern long-eared bat/ habitats with mature tree canopy, nearby water |
| N | Y | Red-shouldered hawk/hardwood swamp |
| N | Y | Blue-winged teal/Black River channel/visual |
| N | Y | Snapping turtle/Black River channel/visual |
| Y | | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
| N | Y | Bald eagle/near water/ previous onsite observations |
| Y | | Blue-spotted Salamander/ hardwood swamp forested seep/visual, under logs |
| Y | | Eastern Red-backed Salamander/ hardwood swamp forested seep/visual, under logs |
| | | |
| | | |
| | | |
| | | |

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|----------------------------------------------|
| | | See above for aquatic species (frog, turtle) |
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SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | Y | N | L | UC | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | Y | N | L | UC | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | Y | L | UC | Point source or stormwater discharge |
| Y | Y | Y | L | UC | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | N | n/a | n/a | Agriculture – pasture |
| N | Y | N | n/a | n/a | Roads or railroad |
| N | Y | N | n/a | n/a | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| N | Y | N | L | UC | Sediment input |
| N | Y | Y | L | UC | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | Y | Y | L | UC | Removal of tree or shrub strata – logging, unprescribed fire |
| Y | Y | Y | L | UC | Human trails – unpaved |
| N | Y | N | L | UC | Human trails – paved |
| N | Y | Y | L | UC | Removal of large woody debris |
| Y | Y | Y | L | UC | Cover of non-native and/or invasive species |
| N | Y | N | L | UC | Residential land use |
| N | Y | N | L | UC | Urban, commercial or industrial use |
| N | Y | N | L | UC | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| Y | Y | Y | M | C | Recreational use (boating, ATVs, etc.) |
| N | N | Y | L | UC | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

| |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The forested seep is generally intact, with the majority of stressors either absent or limited to the buffer. |
| The most significant stressors appear to be the cover of non-native species, primarily barberry, and excessive deer browse. |
| Recreational usage is limited to the unpaved trails that run through the State Park Portion of the area. |
| The forested seep has relatively minimal human disturbance. The tree canopy consists of a diverse mix of species. Natural disturbances, especially windthrow, have led to development of a complex microtopography of cradles and knolls. |
| This provides increased microhabitat diversity, which is important to regeneration of yellow birch, and provides ideal habitat for salamanders. |
| |
| |
| |

SUMMARY OF FUNCTIONAL VALUES (for both components unless otherwise noted)

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | | | Y | | |
| Human Use Values | | | Y | | |
| Wildlife Habitat | | | Y | | |
| Fish and Aquatic Life Habitat | | | Y | | |
| Shoreline Protection | | | Y | | |
| Flood and Stormwater Storage | | Y | | | |
| Water Quality Protection | | | Y | | |
| Groundwater Processes | | | Y | | |

| FUNCTION | RATIONALE |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | The forested seep has a high diversity of canopy and groundlayer species, and conservative species associated with groundwater discharge are represented. Invasives coverage is low. This community is part of an intact transition between adjacent hardwood swamp communities and northern mesic forest uplands. |
| Human Use Values | Public access to the State Park portion of the site provides opportunities for recreation, hiking, and education, and archaeological resources on the site have historical significance. |
| Wildlife Habitat | The diversity of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. A number of species of fauna were observed, are known to occur, or could occur onsite, including rare, protected, SGCN, and Priority Species. The forested seep provides exceptional habitat for amphibians, especially salamanders. |
| Fish and Aquatic Life Habitat | The Black River and surrounding wetland and upland plant communities provide significant habitat for fish and aquatic life. The forested seep provides value to aquatic life that depends on high quality adjacent wetlands for habitat. |
| Shoreline Protection | The forested seep adjacent to the Black River provides essentially unbroken vegetative cover along the banks, offering shoreline protection. Forested Seep has limited extent adjacent to the Black River. |
| Flood and Stormwater Storage | The forested seep along the upslope edge of the Black River floodplain provides limited value in storing and attenuating peak flows in the river, given its small size and linear nature. |
| Water Quality Protection | The forested seep surrounding the Black River provides sustained groundwater discharge to the Black River, which helps protect and maintain water quality and volume to the Black River year round. |
| Groundwater Processes | The forested seep has retains essentially intact groundwater function, as evidenced by the presence of a zone of groundwater discharge, indicators of groundwater discharge such as skunk cabbage, and a lack of sediment and nutrient inputs. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts (significance for both components unless otherwise noted)

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------|
| Direct Impacts Road fill and construction of buildings, parking lots and infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction may alter wetland hydrology; increased runoff/nutrient loading; resulting in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | High |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | |
| Spatial/Habitat Integrity Construction of roads, paths and fairways is expected to result in fragmentation of habitat blocks. | Habitat fragmentation is expected to be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure is expected to result in loss or degradation of rare plant communities including Great Lakes Ridge and Swale and interdunal wetland. | Loss of rare plant communities is expected to be permanent and irreversible. | High |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Hardwood Swamp/Forested Seep

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|---------------------------|---------------------------|------------|-------------|-----------------------------|------------------------------|
| Acer saccharum | sugar maple | native | tree | 5 | 3 |
| Athyrium angustum | common lady fern | native | fern | 5 | 0 |
| Berberis thunbergii | japanese barberry | non-native | shrub | 0 | 3 |
| Betula allegheniensis | yellow birch | native | tree | 7 | 0 |
| Betula papyrifera | paper birch | native | tree | 3 | 3 |
| Carex eburnea | bristle-leaf sedge | native | sedge | 8 | 3 |
| Carex intumescens | greater bladder sedge | native | sedge | 5 | -3 |
| Carex pensylvanica | pennsylvania sedge | native | sedge | 3 | 5 |
| Carex stricta | hummock sedge | native | sedge | 7 | -5 |
| Carpinus caroliniana | musclewood | native | tree | 6 | 0 |
| Chelone glabra | turtlehead | native | forb | 7 | -5 |
| Cinna arundinacea | common wood-reed | native | grass | 5 | -3 |
| Coptis trifolia | three-leaved gold-thread | native | forb | 8 | -3 |
| Elymus virginicus | virginia wild-rye | native | grass | 6 | -3 |
| Epifagus virginiana | beech-drops | native | forb | 9 | 5 |
| Epipactis helleborine | broad-leaved helleborine | non-native | forb | 0 | 5 |
| Eupatorium perfoliatum | common boneset | native | forb | 6 | -3 |
| Fagus grandifolia | american beech | native | tree | 8 | 3 |
| Fraxinus nigra | black ash | native | tree | 8 | -3 |
| Fraxinus pennsylvanica | green ash | native | tree | 2 | -3 |
| Hamamelis virginiana | american witch-hazel | native | shrub | 7 | 3 |
| Hesperis matronalis | dames rocket | non-native | forb | 0 | 3 |
| Ilex verticillata | common winterberry | native | shrub | 7 | -3 |
| Impatiens capensis | orange jewelweed | native | forb | 2 | -3 |
| Iris versicolor | northern blue flag | native | forb | 5 | -5 |
| Laportea canadensis | canadian wood-nettle | native | forb | 4 | -3 |
| Lycopus uniflorus | northern bugleweed | native | forb | 4 | -5 |
| Matteuccia struthiopteris | ostrich fern | native | fern | 5 | 0 |
| Mentha arvensis | wild mint | native | forb | 3 | -3 |
| Onoclea sensibilis | sensitive fern | native | fern | 5 | -3 |
| Osmunda spectabilis | american royal fern | native | fern | 7 | -5 |
| Osmundastrum cinnamomeum | cinnamon fern | native | fern | 7 | -3 |
| Pilea pumila | canadian clearweed | native | forb | 3 | -3 |
| Quercus macrocarpa | bur oak | native | tree | 5 | 3 |
| Quercus rubra | northern red oak | native | tree | 5 | 3 |
| Ranunculus acris | tall european buttercup | non-native | forb | 0 | 0 |
| Ranunculus hispidus | hispid buttercup | native | forb | 6 | 0 |
| Rhamnus cathartica | common invasive buckthorn | non-native | tree | 0 | 0 |
| Rumex obtusifolius | bitter dock | non-native | forb | 0 | 0 |
| Schizachne purpurascens | false melic grass | native | grass | 7 | 3 |
| Scirpus cyperinus | wool-grass | native | sedge | 4 | -5 |
| Symplocarpus foetidus | skunk-cabbage | native | forb | 8 | -5 |
| Thalictrum dasycarpum | tall meadow-rue | native | forb | 4 | -3 |
| Thelypteris palustris | eastern marsh fern | native | fern | 7 | -3 |
| Ulmus americana | american elm | native | tree | 3 | -3 |

| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 39 | 5.5 | 34.3 |
| All Species | 45 | 4.8 | 32.2 |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NE4; SE4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town/City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Dn | WWI Class: unmapped | | |
| Field Verified: Soils were hydric, consistent with the Gb map unit. These wetlands are small inclusions within the mapped Dune Land unit. | Wetland Type(s): Interdunal Wetland (NHI) | | |
| Hydrology: seasonal high water table, saturation and dry-season water table occur, as evidenced by water table at 4" and saturation at surface, measured on 9/19/14. Hydrology appears to be highly seasonal. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 0.3 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 0.3 acres | Wetland Area Impacted NA |
| Wetland Size: 0.3 acres | Wetland Area Impacted NA | | |
| | Vegetation/Plant Community Description(s): The Interdunal Wetland occurs in concave positions in interdunal swale landforms with sandy soil. The vegetation is characterized by a mix of hydrophytic and non-hydrophytic species, with moderate tree canopy coverage. | | |

SITE MAP

See Attached Figure

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | N* | Y | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking |
| 2 | Y | Y | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | N | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | N | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | N* | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | N | | Point or non-point source inflow |
| 6 | N | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | N | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | n/a | | Water flow through wetland is NOT channelized |
| 4 | N | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | N | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | N | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | N | | Discharge to surface water |
| 9 | N | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | N | | Wetland soils are organic |
| 5 | N | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|-----------------------------------------------------------------------------------------------------------------|
| *see comment below |
| HU 1. Area is on private land, off limits to public. |
| HU 6. TES species occur within interdunal wetland and in adjacent dune habitat, including plants and animals. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. This community and adjacent dunes providing habitat for SGCN/Priority Species. |
| WH 12. Interdunal wetland is rare within the surrounding region. |
| GW 1. Indicators of groundwater include vegetation, saturation at or near the surface, and shallow water table. |
| ST 2. Interdunal wetlands are not connected to any surface water inflows/outflows. |
| |
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| |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|----------------------------------------------------------------------------------------------|
| N | Y | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/ pine plantation/visual |
| N | Y | Black-capped chickadee/ pine plantation/visual |
| N | Y | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/ pine plantation/visual |
| N | Y | Blue jay/pine plantation/visual |
| N | Y | Northern long-eared bat/variety of habitats with mature tree canopy, nearby water |
| N | Y | Red-shouldered hawk/hardwood swamp |
| | | |
| | | |
| N | Y | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
| N | Y | Bald eagle/near water/ previous onsite observations |
| N | Y | Blue-spotted Salamander/ vernal pools, hardwood swamp forested seep/visual, under logs |
| N | Y | Eastern Red-backed Salamander/ vernal pools, hardwood swamp forested seep/visual, under logs |
| | | |
| N | Y | Beach dune tiger beetle/dune/visual |
| N | Y | Seaside grasshopper/dune/visual |
| | | |
| | | |

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|-----------------|
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SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | N | N | n/a | n/a | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | N | N | n/a | n/a | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| N | N | N | n/a | n/a | Point source or stormwater discharge |
| N | N | N | n/a | n/a | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | N | n/a | n/a | Agriculture – pasture |
| N | N | N | n/a | n/a | Roads or railroad |
| N | N | N | n/a | n/a | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| N | N | N | n/a | n/a | Sediment input |
| N | N | N | n/a | n/a | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | N | N | n/a | n/a | Removal of tree or shrub strata – logging, unprescribed fire |
| Y | Y | Y | L | UC | Human trails – unpaved |
| N | N | N | n/a | n/a | Human trails – paved |
| N | N | N | n/a | n/a | Removal of large woody debris |
| Y | Y | Y | L | UC | Cover of non-native and/or invasive species |
| N | N | N | n/a | n/a | Residential land use |
| N | N | N | n/a | n/a | Urban, commercial or industrial use |
| N | N | N | n/a | n/a | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| N | N | N | n/a | n/a | Recreational use (boating, ATVs, etc.) |
| N | N | N | n/a | n/a | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

| |
|-------------------------------------------------------------------------------------------------------------------------------------|
| Plant community integrity is in high to exceptional condition, with the majority of stressors either absent or of low severity. |
| The stressors that are present include limited cover of invasive species, invasion of brush, and the presence of a few foot trails. |
| Historic use for pasture or tree planting may have occurred within the interdunal wetland, but effects are limited. |
| Public access and recreational usage are limited. |
| These wetlands provide habitat for rare, sand dune dwelling plants and animals. |
| Interdunal wetlands are limited to a small acreage within the watershed, and are rare within the region. |
| |
| |
| |

SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | | | | Y | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | | | Y | |
| Fish and Aquatic Life Habitat | | | | | Y |
| Shoreline Protection | | | | | Y |
| Flood and Stormwater Storage | | | | | Y |
| Water Quality Protection | | Y | Y | | |
| Groundwater Processes | | | Y | | |

| FUNCTION | RATIONALE |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | There is a moderate level of species diversity, presence of heterogeneous, adjacent plant communities, and presence of from one to three vegetation strata. Highly conservative/rare plant species are present, and low levels of invasive species occur within the community. This is a rare plant community in Wisconsin. |
| Human Use Values | This area is not open to the public, limiting usage for recreation, hiking, and education. Archaeological resources onsite have historical significance. TES species occur onsite. |
| Wildlife Habitat | The Interdunal Wetland provides unique habitats that are likely important to dune-dwelling wildlife. A number of species of fauna were observed, are known to occur, or could potentially occur onsite, including some rare, protected, SGCN, and Priority Species. |
| Fish and Aquatic Life Habitat | Because of their isolated and seasonal nature, the interdunal wetlands probably do not provide significant habitat for fish and aquatic life, however they may serve as a breeding ground for amphibians. |
| Shoreline Protection | Because they are isolated from perennial bodies of water, the interdunal wetlands do not offer significant shoreline protection value. |
| Flood and Stormwater Storage | Because they are isolated from perennial bodies of water, and their direct watershed is small, the interdunal wetlands do not offer significant flood and stormwater storage value. |
| Water Quality Protection | Because they are isolated from other surface waters, the wetlands provide limited value to protecting water quality within the local watershed. |
| Groundwater Processes | The interdunal wetlands are dependent on watertable fluctuation, and retain intact groundwater processes, including groundwater recharge and discharge, which has important beneficial effects on local surface and groundwater quality for adjacent habitats. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of buildings, parking lots and infrastructure is expected to directly impact wetlands resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction is expected to alter wetland hydrology; increased runoff/nutrient loading are expected to result in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | High |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | |
| Spatial/Habitat Integrity Construction of roads, paths and fairways is expected to result in fragmentation of habitat blocks. | Habitat fragmentation is expected to be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure is expected to result in loss or degradation of rare plant communities including Great Lakes Ridge and Swale and interdunal wetland. | Loss of rare plant communities is expected to be permanent and irreversible. | High |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Interdunal Wetland

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|--------------------------------------------------------|------------------------------|------------|-------------|-----------------------------|------------------------------|
| <i>Asclepias syriaca</i> | common milkweed | native | forb | 1 | 5 |
| <i>Betula papyrifera</i> | paper birch | native | tree | 3 | 3 |
| <i>Botrypus virginianus</i> | rattlesnake fern | native | fern | 6 | 3 |
| <i>Calamagrostis canadensis</i> | blue-joint grass | native | grass | 5 | -5 |
| <i>Calamovilfa longifolia</i> var. <i>magna</i> | prairie sand-reed | native | grass | 9 | 5 |
| <i>Carex pensylvanica</i> | pennsylvania sedge | native | sedge | 3 | 5 |
| <i>Cirsium arvense</i> | canada thistle | non-native | forb | 0 | 3 |
| <i>Coreopsis lanceolata</i> var. <i>lanceolata</i> | sand coreopsis | native | forb | 8 | 3 |
| <i>Cynoglossum officinale</i> | common comfrey | non-native | forb | 0 | 5 |
| <i>Dichanthelium acuminatum</i> var. <i>acuminatum</i> | mat panic grass | native | grass | 2 | 0 |
| <i>Elymus trachycaulus</i> | slender wheat grass | native | grass | 4 | 3 |
| <i>Epipactis helleborine</i> | broad-leaved helleborine | non-native | forb | 0 | 5 |
| <i>Equisetum arvense</i> | common horsetail | native | fern ally | 1 | 0 |
| <i>Equisetum hyemale</i> | common scouring rush | native | fern ally | 3 | 0 |
| <i>Euthamia graminifolia</i> | common flat-topped goldenrod | native | forb | 4 | 0 |
| <i>Fragaria virginiana</i> | wild strawberry | native | forb | 1 | 3 |
| <i>Juncus balticus</i> | baltic rush | native | rush | 5 | -5 |
| <i>Juniperus communis</i> | common juniper | native | shrub | 3 | 3 |
| <i>Juniperus horizontalis</i> | creeping juniper | native | shrub | 9 | 3 |
| <i>Lactuca canadensis</i> | canada lettuce | native | forb | 2 | 3 |
| <i>Lobelia inflata</i> | indian-tobacco | native | forb | 2 | 3 |
| <i>Lonicera morrowii</i> | morrows honeysuckle | non-native | shrub | 0 | 3 |
| <i>Lycopus uniflorus</i> | northern bugleweed | native | forb | 4 | -5 |
| <i>Maianthemum stellatum</i> | starry false solomons-seal | native | forb | 5 | 0 |
| <i>Melampyrum lineare</i> | narrow-leaved cow-wheat | native | forb | 7 | 3 |
| <i>Picea glauca</i> | white spruce | native | tree | 7 | 3 |
| <i>Pinus resinosa</i> | red pine | native | tree | 7 | 3 |
| <i>Pinus strobus</i> | eastern white pine | native | tree | 5 | 3 |
| <i>Poa compressa</i> | canada bluegrass | non-native | grass | 0 | 3 |
| <i>Quercus rubra</i> | northern red oak | native | tree | 5 | 3 |
| <i>Rubus idaeus</i> var. <i>strigosus</i> | american red raspberry | native | shrub | 3 | 3 |
| <i>Schizachne purpurascens</i> | false melic grass | native | grass | 7 | 3 |
| <i>Schizachyrium scoparium</i> | little bluestem | native | grass | 4 | 3 |
| <i>Solidago gigantea</i> | giant goldenrod | native | forb | 3 | -3 |
| <i>Solidago nemoralis</i> | gray goldenrod | native | forb | 4 | 5 |
| <i>Solidago speciosa</i> | showy goldenrod | native | forb | 5 | 5 |
| <i>Symphyotrichum boreale</i> | northern bog aster | native | forb | 10 | -5 |
| <i>Symphyotrichum ciliolatum</i> | northern heart-leaved aster | native | forb | 4 | 5 |
| <i>Taraxacum officinale</i> | common dandelion | non-native | forb | 0 | 3 |
| <i>Viola labradorica</i> | alpine violet | native | forb | 4 | 0 |
| <i>Zigadenus elegans</i> subsp. <i>glaucus</i> | white camas | native | forb | 9 | -3 |

| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 35 | 4.7 | 27.8 |
| All Species | 41 | 4.0 | 25.6 |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NW4; NE4; SE4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town /City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Gb, OaB, OaC, Dn | WWI Class: T3/E2K; unmapped | | |
| Field Verified: Some soils were consistent with Gb while others were organic, possibly Hu. Most of the smaller wetland pockets were not mapped as wetland soils. | Wetland Type(s): Swale Wetland Complex: Wet Meadow/Alder Thicket/Hardwood Swamp (Eggers & Reed); Great Lakes Ridge and Swale (NHI) | | |
| Hydrology: seasonal or permanent high water table and/or ponding, as evidenced by water table at 9" and saturation at 5", measured on 9/22/14. Geomorphic position is in swales and depressions in forested dune landscape. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 5.3 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 5.3 acres | Wetland Area Impacted NA |
| Wetland Size: 5.3 acres | Wetland Area Impacted NA | | |
| | Vegetation/Plant Community Description(s): The Swale Wetland Complex occurs in swales and isolated depressions between forested ridges. These wetlands consist of a matrix of wet meadow vegetation, with components of forested wetland and alder thicket, thus providing a variety of conditions from exposed to shaded. | | |

SITE MAP

See Attached Figure

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | N* | Y | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | N | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | Y | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | N | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | N | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | N | | Point or non-point source inflow |
| 6 | N | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | N | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | N | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | N | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | N | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | N | | Discharge to surface water |
| 9 | N | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|-----------------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| HU 1. Area is on private land, off limits to public. |
| HU 6. TES species occur elsewhere onsite; wetlands within site assumed to provide or support TES species habitat functions. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species with suitable habitat onsite include blue-winged teal |
| WH 12. Swale wetlands are a rare feature regionally. |
| GW 1. Indicators of groundwater include vegetation, saturation at or near the surface, and shallow water table. |
| GW 4. Wetland soils include organic and mineral components. |
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| |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|-----------------------------------------------------------------------------------------------|
| Y | | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/observed in adjacent pine plantation/visual |
| N | Y | Black-capped chickadee/observed in adjacent pine plantation/visual |
| Y | | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/observed in adjacent pine plantation/visual |
| N | Y | Blue jay/pine plantation/visual |
| N | Y | Northern long-eared bat/variety of habitats including hardwood swamp with nearby water |
| N | Y | Red-shouldered hawk/hardwood swamp |
| N | Y | Blue-winged teal/Black River channel/visual |
| N | Y | Snapping turtle/Black River channel/visual |
| Y | | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
| N | Y | Bald eagle/hardwood swamp, upland forest; previous onsite observations |
| Y | | Blue-spotted Salamander/ swale wetland, hardwood swamp forested seep/visual, under logs |
| Y | | Eastern Red-backed Salamander/ swale wetland, hardwood swamp forested seep/visual, under logs |
| | | |
| | | |
| | | |
| | | |

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|-----------------|
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SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | N | Y | L | UC | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | N | N | n/a | n/a | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| N | N | N | n/a | n/a | Point source or stormwater discharge |
| N | N | N | n/a | n/a | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | Y | L | UC | Agriculture – pasture |
| N | N | Y | L | UC | Roads or railroad |
| N | N | N | n/a | n/a | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| N | N | N | n/a | n/a | Sediment input |
| N | N | N | n/a | n/a | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | N | Y | L | UC | Removal of tree or shrub strata – logging, unprescribed fire |
| Y | Y | Y | L | UC | Human trails – unpaved |
| N | N | N | n/a | n/a | Human trails – paved |
| N | N | Y | L | UC | Removal of large woody debris |
| Y | Y | Y | L/M | UC/C | Cover of non-native and/or invasive species |
| N | N | N | n/a | n/a | Residential land use |
| N | N | N | n/a | n/a | Urban, commercial or industrial use |
| N | N | N | n/a | n/a | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| N | N | N | n/a | n/a | Recreational use (boating, ATVs, etc.) |
| N | N | N | n/a | n/a | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------|
| The Swale Wetland complex is generally in moderate to intact condition, with the majority of stressors either absent or historic. |
| The most significant stressors appear to be the presence of invasive reed canary grass, and possibly deer herbivory. |
| Historic agricultural was limited, probably including pasturing. |
| Recreational usage is limited to the unpaved trails through the area, and the area is not open to the public |
| These wetlands likely provide important habitat for a variety of amphibians that rely on seasonal ponding and proximity to adjacent upland forest. |
| |
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| |

SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | | | Y | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | | | Y | |
| Fish and Aquatic Life Habitat | | | | | Y |
| Shoreline Protection | | | | | Y |
| Flood and Stormwater Storage | | | | | Y |
| Water Quality Protection | | Y | | | |
| Groundwater Processes | | | Y | | |

| FUNCTION | RATIONALE |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | The swale wetland has a moderate level of species diversity, presence of heterogeneous, adjacent plant communities, and presence of from one to three vegetation strata. Highly conservative/rare plant species were lacking, and low to moderate levels of invasive species occur onsite. |
| Human Use Values | Public access to the Kohler portion of the site is limited, limiting usage for recreation, hiking, and education. Archaeological resources on the site have historical significance. |
| Wildlife Habitat | The combination of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. A number of species of fauna were observed, are known to occur, or could potentially occur onsite, including some rare, protected, SGCN, and Priority Species. |
| Fish and Aquatic Life Habitat | Because of their isolated and seasonal nature, the swale wetlands probably do not have significant habitat for fish and aquatic life; however they are an important breeding ground for amphibians. |
| Shoreline Protection | Because they are isolated from perennial bodies of water, the swale wetlands do not offer significant shoreline protection value. |
| Flood and Stormwater Storage | Because they are isolated from other surface waters, and their direct watershed is small, the swale wetlands do not offer significant flood and stormwater storage value. |
| Water Quality Protection | Because they are isolated from other surface waters, the swale wetlands provide limited value to protecting water quality within the local watershed. |
| Groundwater Processes | The swale wetlands retain intact groundwater processes, including groundwater recharge and discharge, which has beneficial effects on local surface and groundwater quality within adjacent habitats. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of buildings, parking lots and infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction is expected to alter wetland hydrology; increased runoff/nutrient loading are expected to result in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | High |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | |
| Spatial/Habitat Integrity Construction of roads, paths and fairways is expected to result in fragmentation of habitat blocks. | Habitat fragmentation is expected to be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure is expected to result in loss or degradation of rare plant communities including Great Lakes Ridge and Swale and interdunal wetland. | Loss of rare plant communities is expected to be permanent and irreversible. | High |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Interdunal Wetland

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|--------------------------------------------------------|------------------------------|------------|-------------|-----------------------------|------------------------------|
| <i>Asclepias syriaca</i> | common milkweed | native | forb | 1 | 5 |
| <i>Betula papyrifera</i> | paper birch | native | tree | 3 | 3 |
| <i>Botrypus virginianus</i> | rattlesnake fern | native | fern | 6 | 3 |
| <i>Calamagrostis canadensis</i> | blue-joint grass | native | grass | 5 | -5 |
| <i>Calamovilfa longifolia</i> var. <i>magna</i> | prairie sand-reed | native | grass | 9 | 5 |
| <i>Carex pensylvanica</i> | pennsylvania sedge | native | sedge | 3 | 5 |
| <i>Cirsium arvense</i> | canada thistle | non-native | forb | 0 | 3 |
| <i>Coreopsis lanceolata</i> var. <i>lanceolata</i> | sand coreopsis | native | forb | 8 | 3 |
| <i>Cynoglossum officinale</i> | common comfrey | non-native | forb | 0 | 5 |
| <i>Dichanthelium acuminatum</i> var. <i>acuminatum</i> | mat panic grass | native | grass | 2 | 0 |
| <i>Elymus trachycaulus</i> | slender wheat grass | native | grass | 4 | 3 |
| <i>Epipactis helleborine</i> | broad-leaved helleborine | non-native | forb | 0 | 5 |
| <i>Equisetum arvense</i> | common horsetail | native | fern ally | 1 | 0 |
| <i>Equisetum hyemale</i> | common scouring rush | native | fern ally | 3 | 0 |
| <i>Euthamia graminifolia</i> | common flat-topped goldenrod | native | forb | 4 | 0 |
| <i>Fragaria virginiana</i> | wild strawberry | native | forb | 1 | 3 |
| <i>Juncus balticus</i> | baltic rush | native | rush | 5 | -5 |
| <i>Juniperus communis</i> | common juniper | native | shrub | 3 | 3 |
| <i>Juniperus horizontalis</i> | creeping juniper | native | shrub | 9 | 3 |
| <i>Lactuca canadensis</i> | canada lettuce | native | forb | 2 | 3 |
| <i>Lobelia inflata</i> | indian-tobacco | native | forb | 2 | 3 |
| <i>Lonicera morrowii</i> | morrows honeysuckle | non-native | shrub | 0 | 3 |
| <i>Lycopus uniflorus</i> | northern bugleweed | native | forb | 4 | -5 |
| <i>Maianthemum stellatum</i> | starry false solomons-seal | native | forb | 5 | 0 |
| <i>Melampyrum lineare</i> | narrow-leaved cow-wheat | native | forb | 7 | 3 |
| <i>Picea glauca</i> | white spruce | native | tree | 7 | 3 |
| <i>Pinus resinosa</i> | red pine | native | tree | 7 | 3 |
| <i>Pinus strobus</i> | eastern white pine | native | tree | 5 | 3 |
| <i>Poa compressa</i> | canada bluegrass | non-native | grass | 0 | 3 |
| <i>Quercus rubra</i> | northern red oak | native | tree | 5 | 3 |
| <i>Rubus idaeus</i> var. <i>strigosus</i> | american red raspberry | native | shrub | 3 | 3 |
| <i>Schizachne purpurascens</i> | false melic grass | native | grass | 7 | 3 |
| <i>Schizachyrium scoparium</i> | little bluestem | native | grass | 4 | 3 |
| <i>Solidago gigantea</i> | giant goldenrod | native | forb | 3 | -3 |
| <i>Solidago nemoralis</i> | gray goldenrod | native | forb | 4 | 5 |
| <i>Solidago speciosa</i> | showy goldenrod | native | forb | 5 | 5 |
| <i>Symphyotrichum boreale</i> | northern bog aster | native | forb | 10 | -5 |
| <i>Symphyotrichum ciliolatum</i> | northern heart-leaved aster | native | forb | 4 | 5 |
| <i>Taraxacum officinale</i> | common dandelion | non-native | forb | 0 | 3 |
| <i>Viola labradorica</i> | alpine violet | native | forb | 4 | 0 |
| <i>Zigadenus elegans</i> subsp. <i>glaucus</i> | white camas | native | forb | 9 | -3 |

| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 35 | 4.7 | 27.8 |
| All Species | 41 | 4.0 | 25.6 |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | |
| Location: PLSS: T14N, R23E S14 NW4; SW4 | Ecological Landscape: Central Lake Michigan Coastal | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | |
| County: Sheboygan Town /City/Village: Wilson | | | |
| SITE DESCRIPTION | | | |
| Soils: Mapped Type(s): Gb, Ag, Hu | WWI Class: T3/E1K, E2K | | |
| Field Verified: Y | Wetland Type(s): Wet Meadow | | |
| Hydrology: seasonal or permanent high water table and/or saturation, as evidenced by water table at depth of 12", and saturation at 8", measured on 8/14/14. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 5.7 acres</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted NA</td> </tr> </table> | Wetland Size: 5.7 acres | Wetland Area Impacted NA |
| Wetland Size: 5.7 acres | Wetland Area Impacted NA | | |
| | Vegetation: Plant Community Description(s): Wet Meadow is an intact community characterized by dominance of native graminoids and forbs, with occasional shrubs not exceeding 30% coverage. Substrate is seasonally or permanently saturated. Majority of community occurs within the floodplain of Black R. | | |

SITE MAP

See Attached Figure

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park; Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | Y | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | N | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | N | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | Y | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|---------------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| |
| HU 6. TES species observed onsite include blue-winged teal; wet meadow provides or supports TES species habitat. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species: blue-winged teal |
| WH 12. Wet Meadow is uncommon within surrounding agricultural and urban context. |
| |
| GW 1. Indicators of groundwater discharge include vegetation, saturation at or near the surface, and shallow water table. |
| GW 4. Wetland soils include organic and mineral components. |
| |
| |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; **type of habitat:** nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|------------------------------------------------------------------------------------|
| Y | | Spring peeper/hardwood swamp/vocalizations |
| N | Y | Pileated woodpecker/ pine plantation/visual |
| N | Y | Black-capped chickadee/ pine plantation/visual |
| N | Y | Wood frog/hardwood swamp, pine plantation/visual |
| N | Y | Common garter snake/ pine plantation/visual |
| N | Y | Common yellowthroat/wet meadow |
| N | Y | Bald eagle/hardwood swamp, upland forest; previous onsite observations |
| N | Y | Red-shouldered hawk/hardwood swamp |
| Y | | Blue-winged teal/Black River channel/visual |
| Y | | Snapping turtle/Black River channel/visual |
| Y | | White tailed deer/wetland and upland, various habitat types/visual, tracks, browse |
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Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; **type of habitat:** nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|-----------------|
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SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | | | Y | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | | Y | | |
| Fish and Aquatic Life Habitat | | | Y | | |
| Shoreline Protection | | | Y | | |
| Flood and Stormwater Storage | | | Y | | |
| Water Quality Protection | | | Y | | |
| Groundwater Processes | | | Y | | |

| FUNCTION | RATIONALE |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | The intact wet meadow has a high level of species diversity, and a general lack of invasive species coverage. Conservative species are present, indicating an undisturbed, intact plant community. No rare plant species were identified. |
| Human Use Values | Public access to the wet meadow on State Park land is limited to off trail access by foot. Values for recreation, hiking, and education are limited due to the difficulty of access. Archaeological resources elsewhere on the site have historical significance. |
| Wildlife Habitat | The combination of a diversity of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. A number of species of fauna were observed, are known to occur, or could potentially occur onsite, including some rare, protected, SGCN, and Priority Species, e.g., blue-winged teal. |
| Fish and Aquatic Life Habitat | The Black River and surrounding wetland and upland plant communities provide significant habitat for fish and aquatic life. The river and its tributaries have been somewhat impacted by agricultural and stormwater runoff, but retain a healthy aquatic plant community and provides habitat for fish, waterfowl, and amphibians. |
| Shoreline Protection | The wet/sedge meadow provides vegetative cover along the banks of the Black River, offering shoreline protection, which has a positive effect for the river and downstream communities. |
| Flood and Stormwater Storage | The wetlands within the Black River floodplain and surrounding areas upslope provide significant value in storing and attenuating peak flows in the river, which may have a positive impact on reducing flooding downstream. |
| Water Quality Protection | The wetlands surrounding the Black River provide significant value to protecting water quality within the Black River and Lake Michigan. Water quality in the Black River and its tributaries has been negatively impacted by runoff from residential and agricultural areas upstream. |
| Groundwater Processes | The wet/sedge meadow occurs on microsites with essentially intact groundwater processes, including active groundwater discharge areas, which has beneficial effects on surface and groundwater quality, and is important to maintaining the integrity of the native plant community. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of buildings, parking lots and infrastructure is expected to directly impact wetland resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction is expected to alter wetland hydrology; increased runoff/nutrient loading are expected to result in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent. | High |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | |
| Spatial/Habitat Integrity Construction of roads is expected to result in fragmentation of habitat blocks. | Habitat fragmentation is expected to be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure is expected to result in loss or degradation of plant communities and rare species habitats. | Loss of rare plants/animals and communities is expected to be permanent and irreversible. Impacted species within the wet meadow include blue-winged teal. | Medium |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Wet Meadow

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|---------------------------------|--------------------------|------------|-------------|-----------------------------|------------------------------|
| <i>Boehmeria cylindrica</i> | small-sp ke false nettle | native | forb | 6 | -5 |
| <i>Calamagrostis canadensis</i> | blue-joint grass | native | grass | 5 | -5 |
| <i>Carex lacustris</i> | common lake sedge | native | sedge | 6 | -5 |
| <i>Carex stricta</i> | hummock sedge | native | sedge | 7 | -5 |
| <i>Dryopteris cristata</i> | crested shield fern | native | fern | 7 | -5 |
| <i>Epilobium coloratum</i> | cinnamon willow-herb | native | forb | 3 | -5 |
| <i>Eutrochium maculatum</i> | spotted joe-pye-weed | native | forb | 4 | -5 |
| <i>Galium asprellum</i> | rough bedstraw | native | forb | 7 | -5 |
| <i>Helenium autumnale</i> | common sneezeweed | native | forb | 4 | -3 |
| <i>Ilex verticillata</i> | common winterberry | native | shrub | 7 | -3 |
| <i>Impatiens capensis</i> | orange jewelweed | native | forb | 2 | -3 |
| <i>Mentha arvensis</i> | wild mint | native | forb | 3 | -3 |
| <i>Onoclea sensibilis</i> | sensitive fern | native | fern | 5 | -3 |
| <i>Persicaria amphibia</i> | water smartweed | native | forb | 5 | -5 |
| <i>Persicaria sagittata</i> | arrow-leaved tear-thumb | native | forb | 6 | -5 |
| <i>Phalaris arundinacea</i> | reed canary grass | non-native | grass | 0 | -3 |
| <i>Rosa blanda</i> | early wild rose | native | shrub | 4 | 3 |
| <i>Rumex britannica</i> | great water dock | native | forb | 8 | -5 |
| <i>Salix interior</i> | sandbar willow | native | shrub | 2 | -3 |
| <i>Scirpus cyperinus</i> | wool-grass | native | sedge | 4 | -5 |
| <i>Spiraea alba</i> | white meadowsweet | native | shrub | 4 | -3 |
| <i>Stachys palustris</i> | marsh hedge-nettle | native | forb | 5 | -5 |
| <i>Symphotrichum puniceum</i> | purple-stem aster | native | forb | 5 | -5 |
| <i>Symplocarpus foetidus</i> | skunk-cabbage | native | forb | 8 | -5 |
| <i>Thelypteris palustris</i> | eastern marsh fern | native | fern | 7 | -3 |
| <i>Typha latifolia</i> | broad-leaved cat-tail | native | forb | 1 | -5 |
| <i>Urtica dioica</i> | stinging nettle | native | forb | 1 | 0 |

| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 26 | 4.8 | 24.5 |
| All Species | 27 | 4.7 | 24.4 |

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

| WETLAND IDENTIFICATION | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Project name: Kohler Golf Course | Evaluator(s): M. Curran, J. Sulman, M. Knickelbine | | | | |
| File #: 193703078 | Date of visit(s): 9/22, 9/24, 10/2/14 | | | | |
| Location: PLSS: T14N, R23E S14 NW4; SW4 | Ecological Landscape: Central Lake Michigan Coastal | | | | |
| Lat: _____ Long: _____ | Watershed: Black River, SH02 | | | | |
| County: Sheboygan Town/City/Village: Wilson | | | | | |
| SITE DESCRIPTION | | | | | |
| Soils: Mapped Type(s): Gb, Ag, Hu | WWI Class: T3/E1K | | | | |
| Field Verified: Y | Wetland Type(s): Wet Meadow—Degraded | | | | |
| Hydrology: seasonal or permanent high water table and/or saturation, as evidenced by water table at depth of 12", and saturation at 8", measured on 8/14/14. Much of this community is adjacent to the Black River and may be seasonally inundated. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">Wetland Size: 8.1 acres</td> <td style="width: 50%; padding: 5px;">Wetland Area Impacted NA</td> </tr> <tr> <td colspan="2" style="padding: 5px;">Vegetation: Plant Community Description(s): Degraded Wet Meadow is dominated by invasive reed canary grass, with a low diversity of native forbs, and occasional shrubs not exceeding 30% coverage. Majority of community occurs within the floodplain of Black R.</td> </tr> </table> | Wetland Size: 8.1 acres | Wetland Area Impacted NA | Vegetation: Plant Community Description(s): Degraded Wet Meadow is dominated by invasive reed canary grass, with a low diversity of native forbs, and occasional shrubs not exceeding 30% coverage. Majority of community occurs within the floodplain of Black R. | |
| Wetland Size: 8.1 acres | Wetland Area Impacted NA | | | | |
| Vegetation: Plant Community Description(s): Degraded Wet Meadow is dominated by invasive reed canary grass, with a low diversity of native forbs, and occasional shrubs not exceeding 30% coverage. Majority of community occurs within the floodplain of Black R. | | | | | |

SITE MAP

See Attached Figure

SECTION 1: Functional Value Assessment

| HU | Y/N | Potential | Human Use Values: recreation, culture, education, science, natural scenic beauty |
|----|-----|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Y | | Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding, hiking; state park uses |
| 2 | Y | | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | Y | | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | Y | | In or adjacent to RED FLAG areas List: State park; Lake Michigan |
| 6 | Y* | | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | Y* | | In or adjacent to archaeological or cultural resource site |
| WH | | | Wildlife Habitat |
| 1 | Y | | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | Y | | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | Y | | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | Y | | Occurs in a Joint Venture priority township |
| 6 | Y | | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | Y* | | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | Y | | Part of a large habitat block that supports area sensitive species |
| 9 | Y | | Ephemeral pond with water present > 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | N | | Seasonally exposed mudflats present |
| 12 | Y* | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | Fish and Aquatic Life Habitat |
| 1 | Y | | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | Y | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | Shoreline Protection |
| 1 | Y | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | N | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | Y | | Densely rooted emergent or woody vegetation |
| ST | | | Storm and Floodwater Storage |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | Y | | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | Y | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | Water Quality Protection |
| 1 | Y | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland <u>or</u> constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | Y | | Vegetated wetland associated with a lake or stream |
| 5 | Y | | Dense, persistent vegetation |
| 6 | Y* | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | Y* | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | Y | | Discharge to surface water |
| 9 | N | | Natural land cover in 100m buffer area < 50% |
| GW | | | Groundwater Processes |
| 1 | Y* | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | Y | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | Y* | | Wetland soils are organic |
| 5 | N* | | Wetland is within a wellhead protection area |

Section 1 Comments (Refer to Section 1 numbers)

| |
|---------------------------------------------------------------------------------------------------------------------------|
| *see comment below |
| |
| HU 6. TES species observed onsite include blue-winged teal; wet meadow provides or supports TES species habitat. |
| HU 7. Archaeological resources documented in concurrent study. |
| WH 7. SGCN/Priority Species: blue-winged teal |
| WH 12. Wet meadow-degraded is relatively infrequent within surrounding agricultural and urban context. |
| WQ 6. Dense reed canary grass may indicate excess nutrient inputs from upstream sources; but no excess algae/macrophytes. |
| WQ 7. Upstream inputs into Black River include surface runoff from agricultural and residential areas. |
| GW 1. Indicators of groundwater discharge include vegetation, saturation at or near the surface, and shallow water table. |
| GW 4. Wetland soils include organic and mineral components. |
| GW 5. Sheboygan Water Utilities use Lake Michigan as source. |

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; **type of habitat:** nesting, migratory, winter, etc.

| Observed | Potential | Species/Habitat/Comments |
|----------|-----------|-------------------------------------------------------------------------------|
| Y | | Spring peeper/hardwood swamp/vocalizations |
| | | |
| N | Y | other amphibians |
| N | Y | Common garter snake/ pine plantation/visual |
| | | |
| N | Y | Common yellowthroat/wet meadow |
| N | Y | Red-shouldered hawk/hardwood swamp |
| Y | | Blue-winged teal/Black River channel/visual |
| Y | | Snapping turtle/Black River channel/visual |
| Y | | White tailed deer/wetland and upland, various habitats/visual, tracks, browse |
| N | Y | Bald eagle/near water/ previous onsite observations |
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Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; **type of habitat:** nesting, spawning, nursery areas, etc.

| Observed | Potential | Species/Habitat |
|----------|-----------|-----------------|
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SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|----------------------|--------|----------|---------------|----------------------|-----------------------------------------------------------------------------|
| N | Y | N | L | UC | Filling, berms (non-impounding) |
| N | N | N | n/a | n/a | Drainage – tiles, ditches |
| N | Y | Y | M | C | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | Y | M | C | Point source or stormwater discharge |
| Y | Y | Y | L | UC | Polluted runoff |
| N | N | N | n/a | n/a | Pond construction |
| N | N | N | n/a | n/a | Agriculture – row crops |
| N | N | N | n/a | n/a | Agriculture – hay |
| N | N | Y | L | UC | Agriculture – pasture |
| N | Y | N | M | C | Roads or railroad |
| N | Y | Y | L | UC | Utility corridor (above or subsurface) |
| N | N | N | n/a | n/a | Dams, dikes or levees |
| N | N | N | n/a | n/a | Soil subsidence, loss of soil structure |
| N | Y | Y | M | C | Sediment input |
| N | Y | N | L | UC | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | Y | Y | L | UC | Removal of tree or shrub strata – logging, unprescribed fire |
| N | Y | N | L | C | Human trails – unpaved |
| N | N | N | n/a | n/a | Human trails – paved |
| N | N | N | n/a | n/a | Removal of large woody debris |
| Y | Y | Y | H | C | Cover of non-native and/or invasive species |
| N | Y | N | M | C | Residential land use |
| N | Y | N | L | UC | Urban, commercial or industrial use |
| N | Y | N | L | UC | Parking lot |
| N | N | N | n/a | n/a | Golf course |
| N | N | N | n/a | n/a | Gravel pit |
| Y | Y | Y | M | C | Recreational use (boating, ATVs, etc.) |
| N | N | N | n/a | n/a | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
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* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The degraded wet meadow has been impacted by invasion of reed canary grass, which is the result of other stressors including increased runoff, sedimentation, and nutrient inputs from agricultural and residential land uses upstream. Floristic diversity remains moderate, however reed canary grass is dominant over much of the community. Historic agricultural use probably consisted of limited grazing. Recreational usage is limited, and there is a lack of easy foot access to these areas.

SUMMARY OF FUNCTIONAL VALUES

| FUNCTION | SIGNIFICANCE | | | | |
|-------------------------------|--------------|--------|------|-------------|----|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | Y | | | | |
| Human Use Values | | Y | | | |
| Wildlife Habitat | | Y | | | |
| Fish and Aquatic Life Habitat | | | Y | | |
| Shoreline Protection | | | Y | | |
| Flood and Stormwater Storage | | | Y | | |
| Water Quality Protection | | Y | | | |
| Groundwater Processes | | Y | | | |

| FUNCTION | RATIONALE |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floristic Integrity | The degraded wet meadow has moderate species diversity, but high dominance by invasive reed canary grass. Conservative species are absent, and no rare plant species were identified. |
| Human Use Values | Public access to the disturbed wet meadow on State Park land is limited, and its value for recreation, hiking, and education are low. Archaeological resources elsewhere on the site have historical significance. |
| Wildlife Habitat | The combination of a diversity of contiguous upland and wetland plant communities in a large, unfragmented block of habitat adds significance to the site's value for wildlife. A number of species of fauna were observed, are known to occur, or could potentially occur onsite, including some rare, protected, SGCN, and Priority Species, e.g., blue-winged teal. |
| Fish and Aquatic Life Habitat | The Black River and adjacent wet meadow and upland plant communities provide significant habitat for fish and aquatic life. The river and its tributaries have been somewhat impacted by agricultural and stormwater runoff, but retain a healthy aquatic plant community and provide breeding habitat for amphibians. |
| Shoreline Protection | The disturbed wet meadow forms a large extent directly adjacent to the Black River, where it provides dense and unbroken vegetative cover along the banks, offering shoreline protection, which has a positive effect for the river and downstream communities. |
| Flood and Stormwater Storage | The disturbed wet meadow within the Black River floodplain and surrounding areas provides significant capacity to store floodwater and attenuate peak flows in the river, because it occurs on a flat surface only slightly elevated above the river channel. The meadow's storage capacity may have a positive impact on reducing flooding downstream. |
| Water Quality Protection | The wetlands surrounding the Black River provide significant value to protecting water quality within the Black River and Lake Michigan. Water quality in the Black River and its tributaries has been negatively impacted by runoff from residential and agricultural areas upstream. |
| Groundwater Processes | The degraded wet meadow occurs on areas where surface water inputs may have a greater magnitude than groundwater inputs, though a seasonally high water table is apparent. Groundwater quality may benefit from recharge and filtering of excess nutrients in these areas. |

Section 4: Project Impact Assessment

Brief Project Description

The proposed project consists of a golf course on a 247-acre parcel adjacent to Lake Michigan, with an access road to the west, crossing a DNR-owned 135-acre parcel, and the Black River.

Expected Project Impacts

| IMPACT: describe (+ or -) | Permanence/Reversibility | Significance (Low, Medium, High) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Direct Impacts Road fill and construction of buildings, parking lots and infrastructure is expected to directly impact wetlands, resulting in a permanent wetland loss. | Loss of wetland is expected to be permanent. | High |
| Secondary Impacts (including impacts which are indirectly attributable to the project) Road construction is expected to alter wetland hydrology; increased runoff/nutrient loading are expected to result in degradation of wetland habitats and water quality; wells may result in drawdown of water table. | Alterations to wetland hydrology, habitat, water quality, and water table are likely to be permanent, however, these areas are already in a degraded state and changes may not be severe. | Medium |
| Cumulative Impacts Additional development beyond the current proposed plan has the potential to impact additional wetlands. | Additional wetland loss would be permanent. | |
| Spatial/Habitat Integrity Construction of access roads is expected to result in fragmentation of habitat blocks. | Habitat fragmentation is expected to be permanent. | High |
| Rare Plant/Animal Communities/ Natural Areas Construction of golf course infrastructure is expected to result in loss or degradation of plant communities and rare species habitats. | Loss of rare plants/animals and communities is expected to be permanent and irreversible. Impacted species within the degraded wet meadow include blue-winged teal. | Medium |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Wet Meadow (degraded)

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|---------------------------------------|-----------------------------|------------|-------------|-----------------------------|------------------------------|
| <i>Alisma triviale</i> | northern water-plantain | native | forb | 4 | -5 |
| <i>Alnus incana</i> | speckled alder | native | tree | 4 | -3 |
| <i>Asclepias incarnata</i> | marsh milkweed | native | forb | 5 | -5 |
| <i>Asclepias syriaca</i> | common milkweed | native | forb | 1 | 5 |
| <i>Athyrium angustum</i> | common lady fern | native | fern | 5 | 0 |
| <i>Bidens cernua</i> | nodding beggar-ticks | native | forb | 4 | -5 |
| <i>Boehmeria cylindrica</i> | small-spike false nettle | native | forb | 6 | -5 |
| <i>Calamagrostis canadensis</i> | blue-joint grass | native | grass | 5 | -5 |
| <i>Callitriche palustris</i> | common water-starwort | native | forb | 8 | -5 |
| <i>Cardamine pensylvanica</i> | pennsylvania bitter-cress | native | forb | 3 | -3 |
| <i>Carex lacustris</i> | common lake sedge | native | sedge | 6 | -5 |
| <i>Cinna arundinacea</i> | common wood-reed | native | grass | 5 | -3 |
| <i>Cirsium arvense</i> | canada thistle | non-native | forb | 0 | 3 |
| <i>Eleocharis obtusa</i> | blunt spike-rush | native | sedge | 3 | -5 |
| <i>Elymus virginicus</i> | virginia wild-rye | native | grass | 6 | -3 |
| <i>Eutrochium maculatum</i> | spotted joe-pye-weed | native | forb | 4 | -5 |
| <i>Fraxinus pennsylvanica</i> | green ash | native | tree | 2 | -3 |
| <i>Helenium autumnale</i> | common sneezeweed | native | forb | 4 | -3 |
| <i>Iris virginica</i> | southern blue flag | native | forb | 5 | -5 |
| <i>Laportea canadensis</i> | canadian wood-nettle | native | forb | 4 | -3 |
| <i>Lemna minor</i> | common duckweed | native | forb | 4 | -5 |
| <i>Ludwigia palustris</i> | marsh seed-box | native | forb | 4 | -5 |
| <i>Lycopus uniflorus</i> | northern bugleweed | native | forb | 4 | -5 |
| <i>Lythrum salicaria</i> | invasive purple loosestrife | non-native | forb | 0 | -5 |
| <i>Matteuccia struthiopteris</i> | ostrich fern | native | fern | 5 | 0 |
| <i>Mentha arvensis</i> | wild mint | native | forb | 3 | -3 |
| <i>Mimulus ringens</i> | allegheny monkey-flower | native | forb | 6 | -5 |
| <i>Onoclea sensibilis</i> | sensitive fern | native | fern | 5 | -3 |
| <i>Osmunda claytoniana</i> | interrupted fern | native | fern | 6 | 0 |
| <i>Persicaria amphibia</i> | water smartweed | native | forb | 5 | -5 |
| <i>Persicaria hydropiperoides</i> | false water-pepper | native | forb | 6 | -5 |
| <i>Persicaria punctata</i> | dotted smartweed | native | forb | 5 | -5 |
| <i>Phalaris arundinacea</i> | reed canary grass | non-native | grass | 0 | -3 |
| <i>Pilea fontana</i> | bog clearweed | native | forb | 7 | -3 |
| <i>Pilea pumila</i> | canadian clearweed | native | forb | 3 | -3 |
| <i>Ranunculus hispidus</i> | hispid buttercup | native | forb | 6 | 0 |
| <i>Rorippa palustris</i> | common yellow-cress | native | forb | 3 | -5 |
| <i>Rosa palustris</i> | swamp rose | native | shrub | 7 | -5 |
| <i>Rumex britannica</i> | great water dock | native | forb | 8 | -5 |
| <i>Sagittaria latifolia</i> | broad-leaved arrowhead | native | forb | 3 | -5 |
| <i>Salix discolor</i> | pussy willow | native | tree | 2 | -3 |
| <i>Salix petiolaris</i> | meadow willow | native | shrub | 6 | -3 |
| <i>Schoenoplectus tabernaemontani</i> | soft-stem bulrush | native | sedge | 4 | -5 |
| <i>Scirpus cyperinus</i> | wool-grass | native | sedge | 4 | -5 |
| <i>Scutellaria lateriflora</i> | mad-dog skullcap | native | forb | 5 | -5 |
| <i>Sium suave</i> | hemlock water-parsnip | native | forb | 5 | -5 |
| <i>Sparganium americanum</i> | american bur-reed | native | forb | 8 | -5 |
| <i>Sparganium eurycarpum</i> | common bur-reed | native | forb | 5 | -5 |
| <i>Symphotrichum oolentangiense</i> | azure aster | native | forb | 5 | 5 |
| <i>Symplocarpus foetidus</i> | skunk-cabbage | native | forb | 8 | -5 |
| <i>Thalictrum dasycarpum</i> | tall meadow-rue | native | forb | 4 | -3 |

**Kohler Golf Course
Sheboygan County, Wisconsin**

2014 Species List - Wet Meadow (degraded)

| Scientific Name | Common Name | Native | Physiognomy | Coefficient of Conservatism | Region 3 Wetland Coefficient |
|-----------------|-----------------------|--------|-------------|-----------------------------|------------------------------|
| Typha latifolia | broad-leaved cat-tail | native | forb | 1 | -5 |
| Urtica dioica | stinging nettle | native | forb | 1 | 0 |

| FQA Metrics | Species Richness | Mean C Value | FQI |
|-------------|------------------|--------------|------|
| Native | 50 | 4.6 | 32.5 |
| All Species | 53 | 4.4 | 32.0 |