

WETLAND DELINEATION REPORT

→ **WDNR Property & South 50' of Kohler River Trails Property
Town of Wilson
Sheboygan, WI**

Property is a part of Section 11 & 14, T 14N. – R. 23E., Township of Wilson,
Sheboygan County, Wisconsin.

Located northwest of the Kohler-Andrae State Park, west of the Black River, east
of County Rd KK (South 12th Street), and south of the River Trails subdivision.

Report as of
September 26, 2014

Prepared For:
**Kohler Company
Attn: Jess Barley
444 Highland Drive
Mail Stop 201
Kohler, WI 53044**

Prepared By:
Grant Duchac

**Excel Engineering, Inc.
100 Camelot Drive
Fond du Lac, WI 54935**

**EXCEL PROJECT # 1402630
For submittal to US Army Corps of Engineers**

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1. Introduction:

At the request of Kohler Co., certified delineators from Excel Engineering, Inc. and Stantec, Inc. have completed a wetland determination and delineation for property owned by the State of Wisconsin that is located northwest of Kohler Andrae State Park, west of the Black River, east of County Rd KK (South 12th Street), and south of the River Trails subdivision in the Town of Wilson, Sheboygan County, Wisconsin. The project limits also include the south 50' of the River Trails subdivision privately owned by Kohler Co. The purpose of this wetland evaluation is to determine the extent of wetlands within the study area by establishing the boundaries and location of wetland area(s) at this location.

The property area studied contains 140 acres. The existing property is undeveloped and ranges from open areas to heavily wooded and brushy areas. The main wetland community on the subject property follows the Black River and is comprised of a mix of forested and wet meadow type wetland communities. This wetland complex also extends west into the property along two (2) streams flowing into the Black River. An introduced pine plantation exists in a portion of the north half of the property. The historic use of the site appears to have been vacant with no structures or utilities existing on site with exception to a parking lot on the DNR property and a roadway serving the River Trails subdivision within the Kohler Co. River Trails property. Additionally, a maintained walking trail network exists within the DNR property.

The site wetland determination, the delineation fieldwork, wetland boundary location, and this report have been prepared by Grant Duchac, Civil Engineer with Excel Engineering, Inc. J. Scott Roltgen, Project Designer with Excel Engineering Inc., Chuck Herrmann, Senior Scientist with Stantec, Inc., and Mark Remington, Environmental Technician with Stantec, Inc. assisted with the site delineation fieldwork. Mr. Duchac has a Bachelor of Science degree in Civil & Environmental Engineering from the University of Wisconsin-Madison, and completed the Basic Wetland Delineation Training class in July of 2010. Additionally, Mr. Duchac has completed various supplemental wetland trainings including hydric soils and wetland botany classes.

2. Methodology:

The wetland was determined according to methodology defined in the USACE Wetland Delineation Methodology, published in 1987 (1987 Manual), and the Basic Guide to Wisconsin's Wetlands and Their Boundaries, published by the Wisconsin Dept. of Administration, Coastal Management Program. Additionally, supporting documentation issued by the USACE for clarification of their delineation methods has been used, as well. The Northcentral Northeast Region Supplement from the USACE was followed for this location.

Additional supporting information reviewed and utilized included data obtained from the Sheboygan County Geographic Information System (GIS) interactive website, Wisconsin Department of Natural Resources Surface Water Data Viewer Inventory, U.S. Department of Agriculture (USDA) Web Soil Survey, and available aerial photography coverage.

The Routine Method of delineation was used, based on the existing site conditions.

Available aerial photography shows the site undeveloped and unchanged with vegetation throughout. Man-made features present on site include a parking lot and maintained walking trails on the DNR property and a subdivision road within the River Trails subdivision. (See Figure 5 & 6 for current aerials)

The sampling methodology used to determine the wetland boundary was to establish linear transects between different habitat types or apparent changes in soil conditions, and then place sampling points along the transect. At each sample point, a soil boring is made (to a minimum depth of 18/24 inches); and the soil, vegetation, and hydrology are examined. The Wetland Determination Field Data Forms completed during the field evaluation are included at the end of this report. (See Appendix A)

The on-site field work for this delineation was completed on August 5-7, and 13-14, 2014. The weather conditions were typically sunny with air temperature approximately 75-85 degrees F.

3. Site Description:

The property drainage generally follows topography from higher elevations on the west side to lower elevations on the east side near the Black River. The majority of the western half of the property is comprised of uplands and drains to the east towards the Black River. Two (2) streams tributary to the Black River flow through the site from west to east and both are surrounded by an extension of the Black River Wetland Complex. One stream is located on the north/northwest quadrant of the property and one is located in the southern half. The Black River wetland (BR Wetland) complex is located mostly longitudinally with the Black River and is the site's major wetland complex. The two on-site stream complexes add connecting fingers of wetlands extending west of the Black River along the streams. The River Trails Wetland is an extension of the northwest stream wetland (BR Wetland) separated by the River Trails access road.

The other wetland complexes on site are low depressional areas upslope of the main Black River Wetland complex. In general, these wetland complexes are much smaller than the Black River complex and are comprised of low topographical areas within surrounding uplands sloping towards the Black River. Four (4) isolated wetlands (DNR-1 thru DNR-4) are present on site and typically have similar characteristics to each other. (See attached Figure 1 and Figure 2)

The wetland complexes on site are typically a mix of wet meadow wetlands in open areas with scrub/alder thicket wetlands in brushy areas and wooded wetlands along the wetland boundary. The isolated wetlands are generally more open with some areas of canopy trees and brush in and around the boundaries. Most upland canopy trees do not grow far into the wetland complexes and the majority of wetlands on site are a mix of canopy ash trees with large stands of alder thickets. The Black River Wetland complex appears to be within the floodplain and likely acts as flood storage during the wet season. The isolated wetlands appear to collect site drainage and possibly connect to the Black River wetland complex with groundwater connection through sandy soils. All wetland areas identified have been marked in the field with wetland boundary flags and the locations mapped by a surveyor.

The extent of the Wetland delineation was limited to an area owned by the WDNR and the southern 50' of the Kohler Co. River Trails subdivision. (See Wetland Location Map - Figure 1).

The NOAA online weather data for the Sheboygan area indicates the 30-year average precipitation for the three months (May, June, July) prior to the August delineation fieldwork is 11.67 inches. Actual precipitation for May, June, and July was 14.72 inches (26% above normal). The 30-year average precipitation for July is 3.67 inches. Precipitation for July 2014 prior to the delineation was 4.17 inches. Long-term conditions experienced above average precipitation and the period immediately preceding the delineation was around average. Additionally, warm and dry weather was experienced immediately prior to and during the August field work timeframe.

3a) Soils:

The subject property contains the following mapped soil units, according to the Natural Resources Conservation Service (NRCS) Web Soil Survey for Sheboygan County, Wisconsin: Adrian muck, Alluvial land (wet), Granby loamy fine sand, Hebron sandy loam, Houghton muck, Oakville loamy fine sand, Palms muck, and Sisson very fine sandy loam. (See the attached Sheboygan County Soil Survey Map - Figure 3).

3b) Presence of Mapped Wetlands:

The site does contain mapped wetland areas, per the Wisconsin Wetland Inventory Map (WWI Map). The majority of wetlands on site are similar to the WWI map although many wetland areas follow the site topography and the isolated wetlands are not mapped by the WDNR. (See the Wisconsin Wetland Inventory/Location/WDNR Surface Water Data Map - Figures 4A & 4B)

The WWI map is drawn by the Department of Natural Resources from information obtained from aerial photography and is to be used as a reference tool only. Each wetland shown on the WWI map is given a classification symbol based on the type of habitat the wetland is comprised of.

3c) Presence of Identified Wetlands:

The field work and evaluation of the site revealed that wetlands exist on the property. These areas meet the established criteria for wetlands (See Wetland Location Map - Figure 1).

The field delineation included the evaluation of 52 sample data point locations, located along transects through the wetland areas on the site. USACE wetland determination data sheets were completed and are included at the end of this report (See Appendix A).

4. Wetland Discussion:

Black River Wetland (BR Wetland)

This Wetland area identified on the site (74.04 acres) is a wooded and brushy wetland complex with wet meadow open areas along the Black River throughout the site. This wetland generally follows the topography of the Black River and much of the wetland acts as flood storage during high water elevation conditions of the River. A large, relatively flat floodplain wetland area is located in the southwest quadrant of the site which does not follow the orientation of the Black River. This area is a part of the Black River Wetland and likely acts as floodplain storage and a surface water collection area for drainage from the south and west. Additionally, two (2) streams tributary to the Black River flow through the site from west to east and both are surrounded by an extension of the Black River Wetland complex. One stream is located on the north/northwest quadrant of the property and one is located in the southern half creating fingers of wetlands connected to the Black River wetland complex.

Hydrology is primarily from surface water runoff to the low wetland areas surrounding the Black River. Additionally, water back up and floodplain storage from the Black River waterway likely inundates the majority of the wetland areas in the wet spring season annually. Given the regionally sandy soils, surface and/or high perched groundwater may flow from higher elevations on site to the low Black River Wetland area on site. Surface water was not present in the majority of this wetland at the time of the site investigation although the site field work was completed during the dryer late summer season. Primary hydrology indicators found at the time of the site investigation was surface water, saturation, high water table, water marks, and drift deposits. Secondary indicators present at the site investigation include drainage patterns, geomorphic position, and positive FAC-neutral test. The transition from wetland to upland typically included a topographic and soils break at the wetland boundary. The soil profiles became drier upslope of the wetland and groundwater was not encountered in the upland areas. Additionally, the plants transitioned from somewhat open/brushy wetland plants to a dense wooded upland tree vegetation stratum at the wetland boundary and skunk cabbage wetland plants ceased in the uplands. Some upland areas contained more open prairie type vegetation and some wetland areas contained open wet meadow characteristics although the majority of the wetland/upland transition contained wooded and brushy vegetation.

The soils evaluated within the Wetland were found to be hydric. The soil indicators present within the wetland complex were Depleted Dark Surface (A11) and Histosol (A1). Typically, the wetland soils were comprised of either depleted sandy mineral soils with underlying low chroma, light colors, or high amounts of mucky organic soil. Redox concentrations and depletions were found in many soil profiles as well. The wetland soils differed greatly from the drier, darker, and often red/brown sand soils in the uplands.

Hydrophytic vegetation was dominant within the wetland area. The dominant herbaceous species present in the wetland was green ash, (*fraxinus pennsylvanica*, *FacW*), upright sedge (*carex stricta*, *obl*), speckled alder (*alnus incana*, *facw*), and skunk cabbage (*symplocarpus foetidus*, *obl*). Other wetland plant species observed within the wetland are documented in the wetland determination data forms in Appendix A.

The River Trails wetland (**0.33 acres**) is a continuation of the Black River wetland complex across (north) the River Trails subdivision access road. This wetland complex has similar characteristics of the Black River Wetland complex and wetland determination data forms are documented in Appendix A.

DNR Wetland 1

This Wetland area identified on the site (**0.09 acres**) is an open wet meadow wetland separated from the Black River wetland complex by a walking path maintained by the WDNR. This wetland generally follows a low drainage area collecting water from adjacent uplands. The DNR Wetland 1 is mostly linear following site topography and is within an open area of the site upslope of the Black River wetland complex.

Hydrology is primarily from surface water runoff to the low wetland drainage area from the surrounding high areas to the west. Given the regionally sandy soils, surface and/or high perched groundwater may flow from higher elevations on site to this low interior wetland area on site in conjunction with surface water runoff. Surface water was not present in this wetland at the time of the site investigation although the site field work was completed during the dryer late summer season. Surface water may be encountered in the wet spring season although the wetland area slopes topographically from west to east with ditch/swale characteristics. Primary hydrology indicators found at the time of the site investigation were saturation and high water table. Secondary indicators present at the site investigation include geomorphic position and positive FAC-neutral test. The transition from wetland to upland typically included a topographic and soils break at the wetland boundary. Although reed canary grass was encountered upslope of the wetland, upland soils and hydrology were definitive upslope. The soil profiles became drier upslope of the wetland and groundwater was not encountered in the upland areas. Additionally, in most areas, the plants transitioned from open wetland plants to open upland prairie species at the wetland boundary.

The soils evaluated within the Wetland were found to be hydric. The soil indicator present within the wetland complex was Depleted Dark Surface (A11). Typically, the wetland soils were comprised of depleted sandy mineral soils with underlying low chroma, light colors. Redox concentrations were found in the soil profiles as well. The wetland soils differed greatly from the drier, darker, and often red/brown sand soils in the uplands.

Hydrophytic vegetation was dominant within the wetland area. The dominant herbaceous species present in the wetland is reed canary grass (*phalaris arundinacea, facw*). Other wetland plant species observed within the wetland are documented in the wetland determination data forms in Appendix A.

DNR Wetland 2

This Wetland area identified on the site (**1.09 acres**) is a wooded and brushy wetland complex located on a flatter terrace of an area sloping towards the Black River wetland. The wetland is located between the high sloping terrain in the middle of the property and the Black River wetland on the east boundary of the site. The wetland is surrounded by a dense tree canopy of uplands.

Hydrology is primarily from surface water runoff to the low wetland areas from the surrounding high areas to the west. Given the regionally sandy soils, surface and/or high perched groundwater may flow from higher elevations on site to this low interior wetland area on site in conjunction with surface water runoff. Additionally, groundwater leaching out of the hill slope to the west may contribute to wetland hydrology as well. Surface water was not present in this wetland at the time of the site investigation. Primary hydrology indicators found at the time of the site investigation were saturation and high water table. Secondary indicators present at the site investigation include geomorphic position and positive FAC-neutral test. The transition from wetland to upland typically included a topographic, vegetative, and soils break at the wetland boundary. The soil profiles became drier upslope of the wetland and groundwater was not encountered in the upland areas. Additionally, the plants transitioned from wooded/ brushy wetland plants to a dense wooded upland tree vegetation stratum at the wetland boundary. Green Ash was dominant in and at the wetland boundary while the ash species were sparse in the surrounding uplands.

The soils evaluated within the Wetland were found to be hydric. The soil indicator present within the wetland complex was Depleted Dark Surface (A11). Typically, the wetland soils were comprised of depleted sandy mineral soils with underlying low chroma, light colors. Redox concentrations were found in the soil profiles as well. The wetland soils differed greatly from the drier, darker, and often red/brown sand soils in the uplands.

Hydrophytic vegetation was dominant within the wetland area. The dominant herbaceous species present in the wetland include green ash, (*fraxinus pennsylvanica*, *FacW*), Canadian wood wettle, (*laportea canadensis*, *obl*), speckled alder (*alnus incana*, *facw*), and reed canary grass (*phalaris arundinacea*, *facw*). Other wetland plant species observed within the wetland are documented in the wetland determination data forms in Appendix A.

DNR Wetland 3

This Wetland area identified on the site (**0.05 acres**) is an open wet meadow wetland adjacent to the County RD KK Right of Way south of the parking area on the west side of the DNR property. This wetland is partially located within the ROW and is comprised of a low depressional area. The DNR Wetland 3 is a small depression within the higher portions of the property.

Hydrology is primarily from surface water runoff to the low wetland area from the surrounding higher areas and County Rd KK Right of Way. Surface water was not present in this wetland at the time of the site investigation although the site field work was completed during the dryer late summer season. Surface water may be encountered in the wet spring season for relatively short periods of time. The wetland ultimately discharges/overflows to uplands east of the wetland complex preventing large volumes of standing water in the wetland. Primary hydrology indicators were not found at the time of the site investigation. Secondary indicators present at the site investigation include geomorphic position and positive FAC-neutral test. The transition from wetland to upland typically included a topographic, soils, and vegetative break at the wetland boundary. Upland soils and hydrology were definitive upslope. Additionally, in most areas, the plants transitioned from open wetland plants to open upland prairie species at the wetland boundary.

The soils evaluated within the Wetland were found to be hydric. The soil indicator present within the wetland complex was Depleted Dark Surface (A11). The wetland soils were comprised of depleted sandy mineral soils with underlying low chroma, light colors. Redox concentrations were found in the soil profiles as well. The wetland soils differed greatly from the drier, darker, and often red/brown sand soils in the uplands.

Hydrophytic vegetation was dominant within the wetland area. The dominant herbaceous species present in the wetland is reed canary grass (*phalaris arundinacea, facw*), giant goldenrod (*solidago gigantean, facw*), and green ash (*fraxinus pennsylvanica, facw*). Other wetland plant species observed within the wetland are documented in the wetland determination data forms in Appendix A.

DNR Wetland 4

This Wetland area identified on the site (**0.04 acres**) is an isolated pocket wetland within a dense wooded area. This pocket wetland is an isolated low depressional area within undulating topography of sandy soils. The wetland pocket identified is located in a topographic low area with relatively steep and defined banks surrounding the wetland.

Hydrology is primarily from surface water runoff to the low wetland area from the surrounding high areas of the site's undulating topography. Another likely source of water concentration to the pocket wetland in the regionally sandy soils is surface and/or high perched groundwater may flow from higher elevations on site to the low pocket wetland area in conjunction with surface water runoff. Surface water was not present in this wetland at the time of the site investigation. Primary hydrology indicators found at the time of the site investigation were saturation and high water table. Secondary indicators present at the site investigation include geomorphic position and positive FAC-neutral test. The transition from wetland to upland included a topographic and soils break at the wetland boundary. The soil profiles became drier upslope of the wetland and groundwater was not encountered in the upland areas. Additionally, the plants transitioned from somewhat open/brushy wetland plants to a wooded upland tree vegetation stratum at the wetland boundary. Green Ash was present in and at the wetland boundaries although the ash species were not present in the surrounding uplands.

The soils evaluated within the pocket wetland were found to be hydric. The soil indicator present within the wetland complex was Depleted Dark Surface (A11). The wetland soils were comprised of depleted sandy mineral soils with underlying low chroma, light colors. Redox concentrations were present in the soil profile as well. The wetland soils differed greatly from the drier, darker, and often red/brown sand soils in the uplands.

Hydrophytic vegetation was dominant within the wetland area. The dominant herbaceous species present in the wetlands include green ash, (*fraxinus pennsylvanica, FacW*), sweet woodreed (*cinna arundinacea, facw*), and reed canary grass (*phalaris arundinacea, facw*). Other wetland plant species observed within the wetland are documented in the wetland determination data forms in Appendix A.

5. Upland Discussion:

The majority of the uplands existing on the site are comprised of a Northern Mesic Forest community with a more open prairie habitat community along the west side of the property. An introduced pine plantation exists in the northeast quadrant of the site and introduced spruce trees are scattered throughout the site. Since the site is close to Lake Michigan, the plant community is similar to many found in northern Wisconsin due to the cooler climate along the lake. The sandy upland soils on site are very well drained and much different than the wetland soils present on site. The upland soils were typically dark and brown/red color in nature. The upland areas on site generally slope towards the wetland complexes throughout the site. The dominant herbaceous species for the majority of the upland areas is jack pine, (*pinus banksiana, facu*), black cherry, (*prunus serotina, facu*), paper birch (*betula papyrifera, facu*), Japanese barberry (*berberis thunbergii, facu*), Kentucky bluegrass (*poa pratensis, facu*), creeping charlie (*glechoma hederacea, facu*), mayapple, (*podophyllum peltatum, facu*), and Canada goldenrod (*solidago canadensis, facu*). See Appendix A for detailed reports of upland plant species encountered during the site investigation as upland plant communities changed slightly throughout the site. All upland areas were dominated by dry soil profiles and defined soil breaks as much of site is encompassed with non-hydric soils.

6. Conclusion:

The delineated wetland boundaries are subject to concurrence by governmental agencies. These wetland boundaries are considered an estimate of the wetland boundary until reviewed and approved by the appropriate agencies. Excel Engineering, Inc. recommends that the wetland delineation report be submitted to review authority for concurrence prior to commencement of any work on the property. Additionally, any proposed activity in or adjacent to the wetlands would require permitting from the WDNR and the USACE, as well as any permits required from the County or the Town of Wilson.

As a part of this report, no attempt was made to identify other environmental attributes that might be subject to additional regulation including: floodplain, environmental corridors, or culturally significant features.

Excel Engineering, Inc.

Project # 1402630

7. LITERATURE REFERENCES:

Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, 1987, Environmental Laboratory - U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Basic Guide to Wisconsin's Wetlands and Their Boundaries, 1995, Department of Administration and Wisconsin Coastal Management Program.

USACE Supplemental Guidance Memoranda (Various), United States Department of the Army, U.S. Army Corps of Engineers, Washington D.C.

Hydric Soil List for Sheboygan County, Wisconsin, (Web-generated Report), United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS).

Web Soil Survey (Info for Sheboygan County, Wisconsin), Updated 2013, USDA, Natural Resource Conservation Service (NRCS), Formerly Soil Conservation Service.

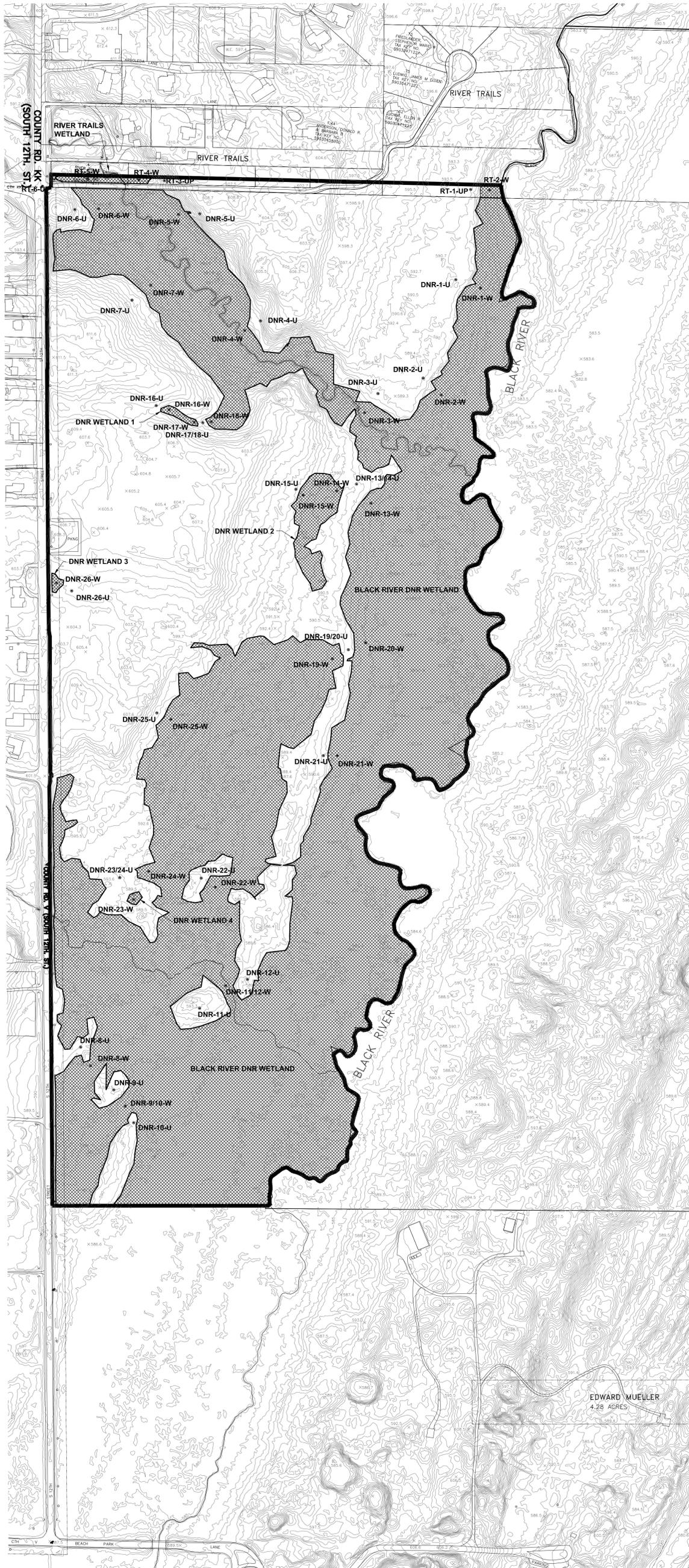
Wisconsin 7.5 Minute Series (Topographic) Maps, United States Geological Survey, Wisconsin

Wisconsin Wetlands Inventory, Sheboygan County, Wisconsin, (Via WDNR Surface Water Data Viewer – Interactive Mapping) Wisconsin Department of Natural Resources.

Checklist of the Vascular Plants of Wisconsin - Wisconsin State Herbarium, 2005, Presented by the University of Wisconsin – Madison.

Surface Water Data Viewer – Designated Waters, Wisconsin Department of Natural Resources Website – Mapping Feature.

GIS Interactive Mapping Webpage, 2014, Sheboygan County Interactive Geographic Information Web Server.



WETLAND AREAS KEY

= WETLAND BOUNDARY

= PROJECT STUDY AREA / PROPERTY BOUNDARY

* WETLAND-X-UP/WET = SAMPLE DATA POINT LOCATION

WETLAND AREA

BLACK RIVER DNR WETLANDS = 74.04 AC
 DNR WETLAND 1 = 0.09 AC
 DNR WETLAND 2 = 1.09 AC
 DNR WETLAND 3 = 0.05 AC
 DNR WETLAND 4 = 0.04 AC
 RIVER TRAILS WETLANDS = 0.33 AC
 TOTAL WETLAND AREA = 75.64 AC

BENCHMARK INFORMATION:
 USG AND GS MONUMENT - BRASS CAP IN CONCRETE POST LOCATED SOUTH OF CTH 'E' (WEEBEN CREEK ROAD) AND ABOUT 100' WEST OF 18TH STREET. MONUMENT WAS SET BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION AND THE CAP IS STAMPED BY S.E.V. #13-45, NAD 83, PD 027392, WISCONSIN/SHEBOYGAN, USGS QUAD SHEBOYGAN SOUTH (1994)

AERIAL PHOTO AND CONTOURS ACQUIRED FROM AERO-METRIC, INC.
 DATE OF PHOTO: APRIL 2009
 DATE OF CONTOUR MAPPING: APRIL 2009
 DRAWING IS IN SHEBOYGAN COUNTY COORDINATES

EXCEL ENGINEERING Inc.

0 100' 200' 400'

PRELIMINARY

THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

KOHLER CO.
 KOHLER, WIS., U.S.A.

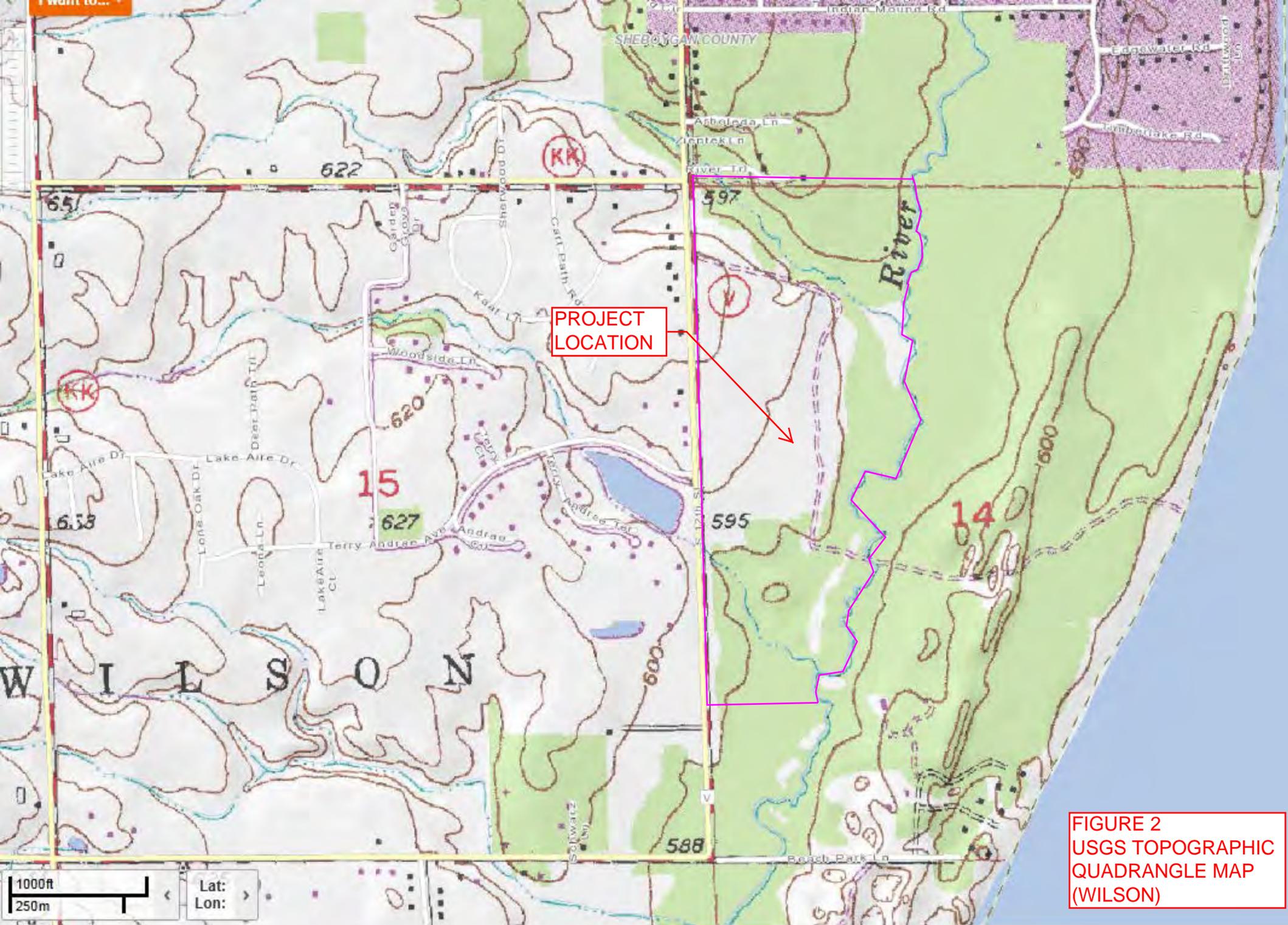
SUBJECT: FIGURE 1 - WETLAND AREAS MAP
 W/ DNR STATE PROPERTY
 TOWN OF WILSON
 SHEBOYGAN COUNTY

MADE BY: GJD	DATE PLOTTED: 9/26/2014
CHECKED BY: x	APPROVED BY:
CONTROL NO. x	THIS DRAWING IS 2" LONG WHEN DRAWING IS PRINTED PLS. CHECK
SCALE: 1"=200'	Copyright ©2014 Kohler Co.
DRAWING NO. WETLAND MAP	SHEET NO.

ACAD# 1402630-C-WETLANDACTUAL-DNR

NO MANUAL REVISIONS ARE TO BE MADE TO THIS DRAWING WITHOUT FIRST CONTACTING C.A.D. PERSONNEL.

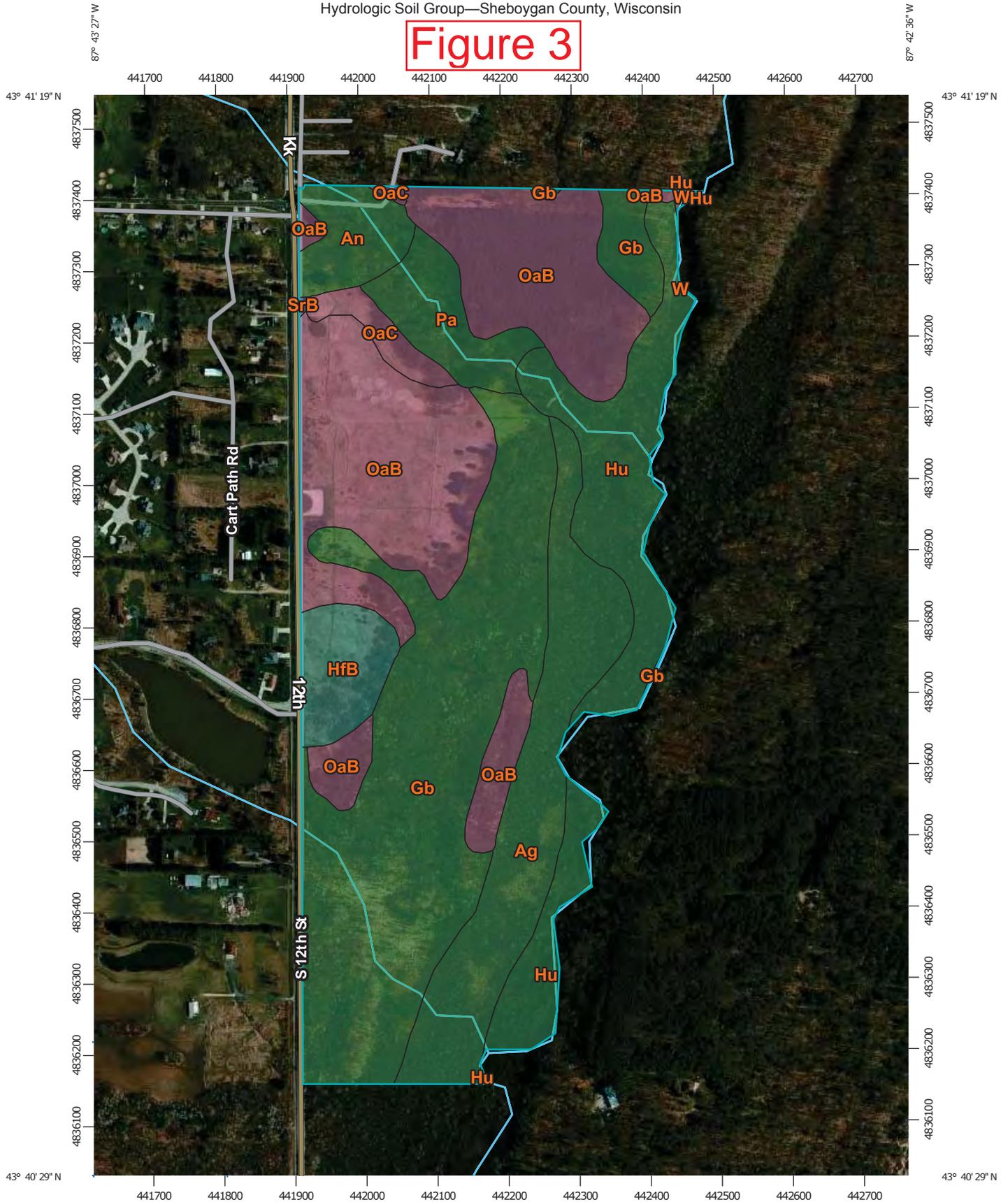
TECHNICAL SERVICES



PROJECT
LOCATION

FIGURE 2
USGS TOPOGRAPHIC
QUADRANGLE MAP
(WILSON)

Figure 3



Map Scale: 1:7,390 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

- Area of Interest (AOI)**
 - Area of Interest (AOI)
- Soils**
 - Soil Rating Polygons**
 - A
 - A/D
 - B
 - B/D
 - C
 - C/D
 - D
 - Not rated or not available
 - Soil Rating Lines**
 - A
 - A/D
 - B
 - B/D
 - C
 - C/D
 - D
 - Not rated or not available
 - Soil Rating Points**
 - A
 - A/D
 - B
 - B/D

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.
 Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sheboygan County, Wisconsin
Survey Area Data: Version 8, Dec 27, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 29, 2011—May 4, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

- Water Features**
 - Streams and Canals
- Transportation**
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background**
 - Aerial Photography

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Sheboygan County, Wisconsin (WI117)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ag	Adrian muck	A/D	19.0	13.4%
An	Alluvial land, wet	A/D	4.6	3.3%
Gb	Granby loamy fine sand	A/D	44.7	31.6%
HfB	Hebron sandy loam, sandy subsoil variant, 2 to 6 percent slopes	C	5.4	3.8%
Hu	Houghton muck	A/D	19.3	13.6%
OaB	Oakville loamy fine sand, 0 to 6 percent slopes	A	39.9	28.2%
OaC	Oakville loamy fine sand, 6 to 12 percent slopes	A	2.4	1.7%
Pa	Palms muck	A/D	6.0	4.2%
SrB	Sisson very fine sandy loam, 2 to 6 percent slopes	B	0.1	0.0%
W	Water		0.1	0.1%
Totals for Area of Interest			141.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Surface Water Data Viewer Map

Figure 4A



Legend

- Wetland Class Points
 - ▲ Dammed pond
 - ◻ Excavated pond
 - ◻ Filled excavated pond
 - ▲ Filled/draind wetland
 - Wetland too small to delineate
- /// Filled Points
- Wetland Class Areas
 - ◻ Wetland
 - ◻ Upland
- ▨ Filled Areas
- * NRCS Wetspots
- ◻ Wetland Indicators
- Rivers and Streams
- Open Water
- 2010 Air Photos (WROC)

1: 9,096



NAD_1983_HARN_Wisconsin_TM
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Notes

FIGURE 5 - SHEBOYGAN COUNTY GIS MAP

ArcIMS HTML Viewer Map



Figure 6 – Current Aerial



APPENDIX A
WETLAND DETERMINATION FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-5-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: RT-1-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: Sec 11, 14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): convex
 Slope (%): 4 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Oakville NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center">Sample point located in high area west of the Black River Wetland complex.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Water table present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): _____ (includes capillary fringe)		Indicators of wetland hydrology present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <p align="center">Area on top of upland bank of Black River at south boundary of River Trails subdivision.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: RT-1-UP

Tree Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer saccharum</i>	75	Y	FACU
2	<i>Quercus alba</i>	25	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
		100 = Total Cover		

Sapling/Shrub Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Fagus grandifolia</i>	5	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		5 = Total Cover		

Herb Stratum	Plot Size (5'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>	10	Y	FACU
2	<i>podophyllum peltatum</i>	10	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		20 = Total Cover		

Woody Vine Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds		
	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	1	3
Herb Stratum	4	10
Woody Vine Stratum	0	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:	0.00% (A/B)

Prevalence Index Worksheet		
Total % Cover of:		
OBL species	0 x 1 =	0
FACW species	0 x 2 =	0
FAC species	0 x 3 =	0
FACU species	125 x 4 =	500
UPL species	0 x 5 =	0
Column totals	125 (A)	500 (B)
Prevalence Index = B/A =		4.00

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic 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. (7.6 cm) 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 (1 m) 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? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: RT-1-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-5	10 YR 2/1	100					Loam/Sand	
5-9	10 YR 5/1	50					Loam/Sand	
	10 YR 3/6	50					Loam/Sand	
9-18+	10 YR 3/6	100					Loam/Sand	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-5-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: RT-2-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: Sec 11, 14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 5 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Hu NWI Classification: T3/E1K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">Sample Point located along Black River at south boundary of River Trails.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No _____ Depth (inches): <u>4"</u> Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>entire</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <hr/>		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: RT-2-W

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Acer saccharum</i>	50	Y	FACU	Tree Stratum	20	50
2	<i>Fagus grandifolia</i>	25	Y	FACU	Sapling/Shrub Stratum	3	8
3	<i>Betula alleghaniensis</i>	25	Y	FAC	Herb Stratum	20	50
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		100	= Total Cover				
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)		
1	<i>Alnus incana</i>	15	Y	FACW	Total Number of Dominant Species Across all Strata: <u>5</u> (B)		
2					Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10							
		15	= Total Cover				
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Phalaris arundinacea</i>	90	Y	FACW	OBL species	<u>0</u> x 1 =	<u>0</u>
2	<i>Matteuccia struthiopteris</i>	10	N	FAC	FACW species	<u>105</u> x 2 =	<u>210</u>
3					FAC species	<u>35</u> x 3 =	<u>105</u>
4					FACU species	<u>75</u> x 4 =	<u>300</u>
5					UPL species	<u>0</u> x 5 =	<u>0</u>
6					Column totals	<u>215</u> (A)	<u>615</u> (B)
7					Prevalence Index = B/A =	<u>2.86</u>	
8							
9							
10							
11							
12							
13							
14							
15							
		100	= Total Cover				
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
1					Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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.		
2							
3							
4							
5							
		0	= Total Cover		Hydrophytic vegetation present? <u>Y</u>		

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-5-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: RT-3-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: Sec 11, 14-23
 Landform (hillslope, terrace, etc.): sloping Local relief (concave, convex, none): _____
 Slope (%): 10 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OAKVILLE NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">Sample taken north side of River Trail-east side of creek.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)		Indicators of wetland hydrology present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <p style="text-align: center;">Dry profile.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: RT-3-UP

Tree Stratum					50/20 Thresholds		
Plot Size (30'r)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Acer saccharum</i>	45	Y	FACU	Tree Stratum	23	58
2	<i>Fagus grandifolia</i>	35	Y	FACU	Sapling/Shrub Stratum	1	3
3	<i>Quercus alba</i>	35	Y	FACU	Herb Stratum	8	20
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		115	= Total Cover				
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'r)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)		
1	<i>Fagus grandifolia</i>	5	Y	FACU	Total Number of Dominant Species Across all Strata: <u>5</u> (B)		
2					Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10							
		5	= Total Cover				
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'r)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Poa pratensis</i>	35	Y	FACU	OBL species	<u>0</u> x 1 =	<u>0</u>
2	<i>podophyllum peltatum</i>	2	N	FACU	FACW species	<u>0</u> x 2 =	<u>0</u>
3	<i>solidago canadensis</i>	2	N	FACU	FAC species	<u>0</u> x 3 =	<u>0</u>
4					FACU species	<u>159</u> x 4 =	<u>636</u>
5					UPL species	<u>0</u> x 5 =	<u>0</u>
6					Column totals	<u>159</u> (A)	<u>636</u> (B)
7					Prevalence Index = B/A =	<u>4.00</u>	
8							
9							
10							
11							
12							
13							
14							
15							
		39	= Total Cover				
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'r)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2							
3							
4							
5							
		0	= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet)					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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? <u>N</u>		

SOIL

Sampling Point: RT-3-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10 YR 2/2	100					Loam sand	Dry
2-8	10 YR 5/3	100					Loam sand	Dry
8-18+	10 YR 5/6	100					Loam sand	Dry

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

Red sand.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-5-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: RT-4-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: Sec 11, 14-23
 Landform (hillslope, terrace, etc.): near drainage creek Local relief (concave, convex, none): concave
 Slope (%): flat Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: An NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">Sample taken adjacent to east side of creek, north of River Trails Drive.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)	Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>2"</u> Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)
Indicators of wetland hydrology present? <u>Y</u>		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <p style="text-align: center;">Water was present in creek. No water table in sample boring.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: RT-4-W

Tree Stratum					Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Fraxinus pennsylvanica</i>		70	Y	FACW				
2	<i>Betula alleghaniensis</i>		25	Y	FAC				
3									
4									
5									
6									
7									
8									
9									
10									
			95	= Total Cover					
Sapling/Shrub Stratum					Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Alnus incana</i>		35	Y	FACW				
2									
3									
4									
5									
6									
7									
8									
9									
10									
			35	= Total Cover					
Herb Stratum					Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Symplocarpus foetidus</i>		60	Y	OBL				
2	<i>Matteuccia struthiopteris</i>		35	Y	FAC				
3	<i>Alliana petiolata</i>		35	Y	FACU				
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
			130	= Total Cover					
Woody Vine Stratum					Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
			0	= Total Cover					

50/20 Thresholds		
Tree Stratum	20%	50%
Sapling/Shrub Stratum	19	48
Herb Stratum	7	18
Woody Vine Stratum	26	65
	0	0
Dominance Test Worksheet		
Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A)		
Total Number of Dominant Species Across all Strata: <u>6</u> (B)		
Percent of Dominant Species that are OBL, FACW, or FAC: <u>83.33%</u> (A/B)		
Prevalence Index Worksheet		
Total % Cover of:		
OBL species	<u>60</u> x 1 =	<u>60</u>
FACW species	<u>105</u> x 2 =	<u>210</u>
FAC species	<u>60</u> x 3 =	<u>180</u>
FACU species	<u>35</u> x 4 =	<u>140</u>
UPL species	<u>0</u> x 5 =	<u>0</u>
Column totals	<u>260</u> (A)	<u>590</u> (B)
Prevalence Index = B/A = <u>2.27</u>		
Hydrophytic Vegetation Indicators:		
<input type="checkbox"/> Rapid test for hydrophytic vegetation		
<input checked="" type="checkbox"/> Dominance test is >50%		
<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
<input type="checkbox"/> Problematic 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. (7.6 cm) 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 (1 m) 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? <u>Y</u>		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: RT-4-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10 YR 3/2	100					Muck	Muck
3-18+	10 YR 2/1	100					Muck	Muck

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric soil present? <u> Y </u>
--	--

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-5-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: RT-5-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: Sec 11, 14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): flat Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: An NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">Sample taken north of River Trail, west of creek</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living _____ Drift Deposits (B3) _____ Roots (C3) _____ Algal Mat or Crust (B4) _____ Presence of Reduced Iron (C4) _____ Iron Deposits (B5) _____ Recent Iron Reduction in Tilled _____ Inundation Visible on Aerial _____ Soils (C6) _____ Imagery (B7) _____ Thin Muck Surface (C7) _____ Sparsely Vegetated Concave _____ Other (Explain in Remarks) _____ Surface (B8)	Secondary Indicators (minimum of two required) _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery _____ (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Microtopographic Relief (D4)	Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)
Indicators of wetland hydrology present? <u>Y</u>		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <p style="text-align: center;">Surface water was present in creek, but not in sample boring.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: RT-5-W

Tree Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status																	
1	<i>Fraxinus pennsylvanica</i>	40	Y	FACW	50/20 Thresholds <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;"></td> <td style="width:20%; text-align: center;">20%</td> <td style="width:20%; text-align: center;">50%</td> </tr> <tr> <td>Tree Stratum</td> <td style="text-align: center;">8</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Sapling/Shrub Stratum</td> <td style="text-align: center;">8</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Herb Stratum</td> <td style="text-align: center;">21</td> <td style="text-align: center;">53</td> </tr> <tr> <td>Woody Vine Stratum</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table>			20%	50%	Tree Stratum	8	20	Sapling/Shrub Stratum	8	20	Herb Stratum	21	53	Woody Vine Stratum	0	0
	20%	50%																			
Tree Stratum	8	20																			
Sapling/Shrub Stratum	8	20																			
Herb Stratum	21	53																			
Woody Vine Stratum	0	0																			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10		40 = Total Cover																			
Sapling/Shrub Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)																
1	<i>Alnus incana</i>	40	Y	FACW																	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10		40 = Total Cover																			
Herb Stratum	Plot Size (5'R)	Absolute % Cover	Dominant Species	Indicator Status	Prevalence Index Worksheet Total % Cover of: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>185</u> (A) <u>445</u> (B) Prevalence Index = B/A = <u>2.41</u>																
1	<i>Matteuccia struthiopteris</i>	75	Y	FAC																	
2	<i>Symplocarpus foetidus</i>	20	N	OBL																	
3	<i>Berberis thunbergii</i>	10	N	FACU																	
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15		105 = Total Cover																			
Woody Vine Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																
1																					
2																					
3																					
5		0 = Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet)					Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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? <u>Y</u>																

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-5-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: RT-6-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): sloping Local relief (concave, convex, none): _____
 Slope (%): 10 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: An NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">Sample taken north of River Trail, west of creek at intersection of River Trail and CTH V.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)	Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)
Indicators of wetland hydrology present? <u> N </u>		Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____ _____ _____
Remarks: _____ _____		

VEGETATION - Use scientific names of plants

Sampling Point: RT-6-UP

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Tilia americana</i>	40	Y	FACU	Tree Stratum	20	50
2	<i>picea glauca</i>	30	Y	FACU	Sapling/Shrub Stratum	1	3
3	<i>Fraxinus pennsylvanica</i>	30	Y	FACW	Herb Stratum	4	11
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		100	= Total Cover				
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
1	<i>Gleditsia triacanthos</i>	5	Y	FAC	Total Number of Dominant Species Across all Strata: <u>6</u> (B)		
2					Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10							
		5	= Total Cover				
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Trillium</i>	10	Y		OBL species	0	x 1 = 0
2	<i>Poa pratensis</i>	10	Y	FACU	FACW species	30	x 2 = 60
3	<i>carex pensylvanica</i>	2	N	FACU	FAC species	5	x 3 = 15
4					FACU species	82	x 4 = 328
5					UPL species	0	x 5 = 0
6					Column totals	117 (A)	403 (B)
7					Prevalence Index = B/A =	3.44	
8							
9							
10							
11							
12							
13							
14							
15							
		22	= Total Cover				
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2							
3							
4							
5							
		0	= Total Cover				
Definitions of Vegetation Strata:					Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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? <u>N</u>		
Remarks: (Include photo numbers here or on a separate sheet)							

SOIL

Sampling Point: RT-6-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10 YR 2/2	100					Loam sand	Loam sand
6-9	10 YR 2/2	50					Loam sand	Loam sand
	10 YR 4/4	50					Loam sand	Loam sand
9-18+	10 YR 4/4	100					Loam sand	Loam sand

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
 **Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histisol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p>Indicators for Problematic Hydric Soils:</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric soil present? <u> N </u>
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Remarks:
 Dry profile.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-1-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): sloping Local relief (concave, convex, none): _____
 Slope (%): 5 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Gb NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u> N </u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <p style="margin-left: 20px;">Sample taken in middle of spruce trees, which were surrounded by pine trees.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-1-UP

Tree Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>picea glauca</i>	100	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		100 = Total Cover		

Sapling/Shrub Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Berberis thunbergii</i>	15	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		15 = Total Cover		

Herb Stratum	Plot Size (5'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Trillium cernuum</i>	5	Y	FAC
2	<i>carex pensylvanica</i>	2	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		7 = Total Cover		

Woody Vine Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds

Tree Stratum	20%	50%
Sapling/Shrub Stratum	3	8
Herb Stratum	1	4
Woody Vine Stratum	0	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: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	117	x 4 =	468
UPL species	0	x 5 =	0
Column totals	122	(A)	483 (B)
Prevalence Index = B/A =			3.96

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic 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. (7.6 cm) 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 (1 m) 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? N

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-1-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Hu NWI Classification: T3/E1K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> Sample point along Black River 400' south of state property line. </div>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6"</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>entire</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <div style="border: 1px solid black; height: 20px; margin: 5px 0;"></div>		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-1-W

Tree Stratum					50/20 Thresholds		
Plot Size (	30'R	)	Absolute % Cover	Dominant Species	Indicator Status	20%	50%
1	<i>Betula alleghaniensis</i>		40	Y	FAC	20	50
2	<i>Acer saccharum</i>		40	Y	FACU	4	10
3	<i>Fagus grandifolia</i>		20	Y	FACU	16	41
4						0	0
5							
6							
7							
8							
9							
10							
			100	=	Total Cover		
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (	30'R	)	Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)	
1	<i>Berberis thunbergii</i>		20	Y	FACU	Total Number of Dominant Species Across all Strata: <u>5</u> (B)	
2						Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)	
3							
4							
5							
6							
7							
8							
9							
10							
			20	=	Total Cover		
Herb Stratum					Prevalence Index Worksheet		
Plot Size (	5'R	)	Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:	
1	<i>Symplocarpus foetidus</i>		65	Y	OBL	OBL species <u>65</u> x 1 = <u>65</u>	
2	<i>Matteuccia struthiopteris</i>		15	N	FAC	FACW species <u>2</u> x 2 = <u>4</u>	
3	<i>Solidago gigantea</i>		2	N	FACW	FAC species <u>55</u> x 3 = <u>165</u>	
4						FACU species <u>80</u> x 4 = <u>320</u>	
5						UPL species <u>0</u> x 5 = <u>0</u>	
6						Column totals <u>202</u> (A) <u>554</u> (B)	
7						Prevalence Index = B/A = <u>2.74</u>	
8							
9							
10							
11							
12							
13							
14							
15							
			82	=	Total Cover		
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (	30'R	)	Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation	
1						<input type="checkbox"/> Dominance test is >50%	
2						<input checked="" type="checkbox"/> Prevalence index is ≤3.0*	
3						Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
4						<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
5						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
			0	=	Total Cover		
Definitions of Vegetation Strata:					Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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.		

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-2-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): sloping Local relief (concave, convex, none): _____
 Slope (%): 4 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OAKVILLE NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Sample point located in a grove of pine trees.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)		Indicators of wetland hydrology present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____ _____		
Remarks: _____ _____		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-2-UP

Tree Stratum					50/20 Thresholds		
Plot Size (	30'R	)	Absolute % Cover	Dominant Species	Indicator Status	20%	50%
1	<i>Pinus banksiana</i>		100	Y	FACU	21	53
2	<i>prunus serotina</i>		5	N	FACU	6	15
3						2	6
4						0	0
5							
6							
7							
8							
9							
10			105	= Total Cover			
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (	30'R	)	Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)	
1	<i>prunus serotina</i>		30	Y	FACU	Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
2						Percent of Dominant Species that are OBL, FACW, or FAC: <u>25.00%</u> (A/B)	
3							
4							
5							
6							
7							
8							
9							
10			30	= Total Cover			
Herb Stratum					Prevalence Index Worksheet		
Plot Size (	5'R	)	Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:	
1	<i>Trillium cernuum</i>		5	Y	FAC	OBL species	<u>0</u> x 1 = <u>0</u>
2	<i>rubus sp.</i>		5	Y	FACU	FACW species	<u>0</u> x 2 = <u>0</u>
3	<i>Matteuccia struthiopteris</i>		1	N	FAC	FAC species	<u>6</u> x 3 = <u>18</u>
4	<i>Berberis vulgaris</i>		1	N	FACU	FACU species	<u>141</u> x 4 = <u>564</u>
5						UPL species	<u>0</u> x 5 = <u>0</u>
6						Column totals	<u>147</u> (A) <u>582</u> (B)
7						Prevalence Index = B/A =	<u>3.96</u>
8							
9							
10							
11							
12							
13							
14							
15			12	= Total Cover			
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (	30'R	)	Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1						Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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.	
2						Hydrophytic vegetation present? <u>N</u>	
3							
4							
5			0	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DNR-2-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10 YR 2/1	100					Loam	W/ sand
3-9	10 YR 3/2	100					Sand	Fine sand
9-18+	10 YR 4/6	100					Sand	Fine sand

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-2-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Hu NWI Classification: T3/E1K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">Sample taken along west side of Black River, 800' south of north property line.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No _____ Depth (inches): <u>5"</u> Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>entire</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-2-W

Tree Stratum	Plot Size (30'r)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Fraxinus pennsylvanica</i>	50	Y	FACW
2	<i>prunus serotina</i>	40	Y	FACU
3	<i>Fraxinus nigra</i>	10	N	FACW
4				
5				
6				
7				
8				
9				
10				
		100 = Total Cover		

Sapling/Shrub Stratum	Plot Size (30'r)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Berberis thunbergii</i>	10	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		10 = Total Cover		

Herb Stratum	Plot Size (5'r)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Symplocarpus foetidus</i>	70	Y	OBL
2	<i>Matteuccia struthiopteris</i>	10	N	FAC
3	<i>Onoclea sensibilis</i>	2	N	FACW
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		82 = Total Cover		

Woody Vine Stratum	Plot Size (30'r)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	2	5
Herb Stratum	16	41
Woody Vine Stratum	0	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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	70	x 1 =	70
FACW species	62	x 2 =	124
FAC species	10	x 3 =	30
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	192	(A)	424 (B)
Prevalence Index = B/A =			2.21

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic 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. (7.6 cm) 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 (1 m) 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? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-3-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OaB NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u> N </u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <u>Sample taken in jack pine plantation near trail intersection at bridge.</u>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-3-UP

Tree Stratum		Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Pinus banksiana</i>		70	Y	FACU
2	<i>Prunus serotina</i>		40	Y	FACU
3					
4					
5					
6					
7					
8					
9					
10					
			110	= Total Cover	

Sapling/Shrub Stratum		Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Prunus serotina</i>		20	Y	FACU
2					
3					
4					
5					
6					
7					
8					
9					
10					
			20	= Total Cover	

Herb Stratum		Plot Size (5'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Prunus serotina</i>		2		FACU
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			2	= Total Cover	

Woody Vine Stratum		Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1					
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

Tree Stratum	20%	50%
Sapling/Shrub Stratum	4	10
Herb Stratum	0	1
Woody Vine Stratum	0	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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	132	x 4 =	528	
UPL species	0	x 5 =	0	
Column totals	132	(A)	528	(B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence Index is $\leq 3.0^*$

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic 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. (7.6 cm) 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 (1 m) 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? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DNR-3-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2"	10 YR 2/1						Loam sand	Organics - W/ sand
2-10"	10 YR 2/2	80					Loam sand	Dry
	10 YR 5/2	20					Loam sand	
10-18"+	10 YR 4/4	100					Loam sand	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

Dry soil profile.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-3-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): flat Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Pa NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No <u> </u> Depth (inches): _____ Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: Sample taken along creek near trail intersection and bridge.		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-3-W

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Fraxinus pennsylvanica</i>	60	Y	FACW	Tree Stratum	20	50
2	<i>Acer saccharum</i>	40	Y	FACU	Sapling/Shrub Stratum	16	40
3					Herb Stratum	0	1
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10		100	= Total Cover				
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
1	<i>Alnus incana</i>	40	Y	FACW	Total Number of Dominant Species Across all Strata: <u>4</u> (B)		
2	<i>Berberis thunbergii</i>	40	Y	FACU	Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10		80	= Total Cover				
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Symplocarpus foetidus</i>	2		OBL	OBL species	<u>2</u> x 1 =	<u>2</u>
2					FACW species	<u>100</u> x 2 =	<u>200</u>
3					FAC species	<u>0</u> x 3 =	<u>0</u>
4					FACU species	<u>80</u> x 4 =	<u>320</u>
5					UPL species	<u>0</u> x 5 =	<u>0</u>
6					Column totals	<u>182</u> (A)	<u>522</u> (B)
7					Prevalence Index = B/A =	<u>2.87</u>	
8							
9							
10							
11							
12							
13							
14							
15		2	= Total Cover				
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2							
3							
4							
5		0	= Total Cover				
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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? <u>Y</u>		
Remarks: (Include photo numbers here or on a separate sheet)							

SOIL

Sampling Point: DNR-3-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18"+	10 YR 2/1	80					Muck	Muck
	10 YR 2/2	20						

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Saturated profile.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-7-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-4-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OaB NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u> N </u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: Sample point approximately 600' south of River Trail Drive.		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-4-UP

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Pinus banksiana</i>	60	Y	FACU	Tree Stratum	20	50
2	<i>Prunus serotina</i>	40	Y	FACU	Sapling/Shrub Stratum	13	33
3					Herb Stratum	5	14
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10		100 = Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)		
1	<i>Berberis thunbergii</i>	60	Y	FACU	Total Number of Dominant Species Across all Strata: <u>4</u> (B)		
2	<i>Fraxinus pennsylvanica</i>	5	N	FACW	Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10		65 = Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Berberis thunbergii</i>	25	Y	FACU	OBL species	<u>0</u> x 1 =	<u>0</u>
2	<i>Trillium flexipes</i>	2	N	FAC	FACW species	<u>5</u> x 2 =	<u>10</u>
3					FAC species	<u>2</u> x 3 =	<u>6</u>
4					FACU species	<u>185</u> x 4 =	<u>740</u>
5					UPL species	<u>0</u> x 5 =	<u>0</u>
6					Column totals	<u>192</u> (A)	<u>756</u> (B)
7					Prevalence Index = B/A =	<u>3.94</u>	
8							
9							
10							
11							
12							
13							
14							
15		27 = Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2							
3							
4							
5		0 = Total Cover					
Woody Vine Stratum					Definitions of Vegetation Strata:		
1					Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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.		
2							
3							
4							
5							
Hydrophytic vegetation present? <u>N</u>							
Remarks: (Include photo numbers here or on a separate sheet)							

SOIL

Sampling Point: DNR-4-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6"	10 YR 2/2	100					Sand loam	Sand loam
6-10"	10 YR 2/2	50					Sand loam	Sand loam
	10 YR 4/4	50					Sand loam	Sand loam
10-13"	10 YR 4/4	80					Sand loam	Sand loam
	10 YR 5/6	80					Sand loam	Sand loam
13-18"+	10 YR 6/4	100					Sand loam	Sand loam

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

Dry soil profile.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-7-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-4-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): flat Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Pa NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>2" (nearby)</u> Water table present? Yes _____ No <u>X</u> Depth (inches): <u>(nearby)</u> Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <u>Surface water was present in creek located adjacent to sample location.</u>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-4-W

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Fraxinus pennsylvanica</i>	50	Y	FACW	Tree Stratum	10	25
2					Sapling/Shrub Stratum	12	30
3					Herb Stratum	15	38
4					Woody Vine Stratum	0	0
5					Dominance Test Worksheet		
6					Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A)		
7					Total Number of Dominant Species Across all Strata: <u>5</u> (B)		
8					Percent of Dominant Species that are OBL, FACW, or FAC: <u>80.00%</u> (A/B)		
9					Prevalence Index Worksheet		
10		50	= Total Cover		Total % Cover of:		
					OBL species	20	x 1 = 20
					FACW species	130	x 2 = 260
					FAC species	0	x 3 = 0
					FACU species	35	x 4 = 140
					UPL species	0	x 5 = 0
					Column totals	185 (A)	420 (B)
					Prevalence Index = B/A = <u>2.27</u>		
Sapling/Shrub Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation		
1	<i>Ainus incana</i>	30	Y	FACW	<input checked="" type="checkbox"/> Dominance test is >50%		
2	<i>Berberis thunbergii</i>	30	Y	FACU	<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
3					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
4					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
5					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
6					Definitions of Vegetation Strata:		
7					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
9					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
10					Woody vines - All woody vines greater than 3.28 ft in height.		
11					Hydrophytic vegetation present? <u>Y</u>		
12							
13							
14							
15		60	= Total Cover				
Herb Stratum							
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status			
1	<i>Phalaris arundinacea</i>	50	Y	FACW			
2	<i>Symplocarpus foetidus</i>	20	Y	OBL			
3	<i>Solidago canadensis</i>	5	N	FACU			
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15		75	= Total Cover				
Woody Vine Stratum							
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-6-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-5-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OaB NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: Sample taken near bridge location for River Trails.		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-5-UP

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Betula alleghaniensis</i>	80	Y	FAC	Tree Stratum	20	50
2	<i>Fraxinus pennsylvanica</i>	20	Y	FACW	Sapling/Shrub Stratum	2	5
3					Herb Stratum	15	39
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		100 = Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)		
1	<i>Betula alleghaniensis</i>	5	Y	FAC	Total Number of Dominant Species Across all Strata: <u>5</u> (B)		
2	<i>Berberis thunbergii</i>	5	Y	FACU	Percent of Dominant Species that are OBL, FACW, or FAC: <u>60.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10							
		10 = Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Poa pratensis</i>	75	Y	FACU	OBL species	<u>0</u> x 1 =	<u>0</u>
2	<i>Podophyllum peltatum</i>	2	N	FACU	FACW species	<u>20</u> x 2 =	<u>40</u>
3					FAC species	<u>85</u> x 3 =	<u>255</u>
4					FACU species	<u>82</u> x 4 =	<u>328</u>
5					UPL species	<u>0</u> x 5 =	<u>0</u>
6					Column totals	<u>187</u> (A)	<u>623</u> (B)
7					Prevalence Index = B/A =	<u>3.33</u>	
8							
9							
10							
11							
12							
13							
14							
15							
		77 = Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation		
1					<input checked="" type="checkbox"/> Dominance test is >50%		
2					<input type="checkbox"/> Prevalence Index is ≤3.0*		
3					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
4					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
5					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
		0 = Total Cover					
Definitions of Vegetation Strata:					<p>Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines - All woody vines greater than 3.28 ft in height.</p>		
					<p>Hydrophytic vegetation present? <u>Y</u></p>		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DNR-5-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3"	10 YR 2/2	100					Sand loam	Dry
3-6"	10 YR 5/2	100					Sand loam	Dry
6-11"	10 YR 4/4	100					Sand loam	Dry
11-18"+	10 YR 6/8	100					Sand loam	Dry

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-8-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-5-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): flat Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Pa NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): _____ Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8"</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>entire</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <p style="margin-left: 20px;">Sample taken by bridge at River Trails.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-5-W

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Betula alleghaniensis</i>	75	Y	FAC	Tree Stratum	20	50
2	<i>Fraxinus pennsylvanica</i>	25	Y	FACW	Sapling/Shrub Stratum	2	5
3					Herb Stratum	18	46
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		100 = Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)		
1	<i>Berberis thunbergii</i>	10	Y	FACU	Total Number of Dominant Species Across all Strata: <u>4</u> (B)		
2					Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)		
3							
4							
5							
6							
7							
8							
9							
10							
		10 = Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1	<i>Symplocarpus foetidus</i>	85	Y	OBL	OBL species	85 x 1 =	85
2	<i>Solidago canadensis</i>	5	N	FACU	FACW species	25 x 2 =	50
3	<i>Matteuccia struthiopteris</i>	2	N	FAC	FAC species	77 x 3 =	231
4					FACU species	15 x 4 =	60
5					UPL species	0 x 5 =	0
6					Column totals	202 (A)	426 (B)
7					Prevalence Index = B/A =	2.11	
8							
9							
10							
11							
12							
13							
14							
15							
		92 = Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2							
3							
4							
5							
		0 = Total Cover					
Definitions of Vegetation Strata:					Tree - Woody plants 3 in. (7.6 cm) 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 (1 m) 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? <u>Y</u>		
Remarks: (Include photo numbers here or on a separate sheet)							

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-7-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-6-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OaB NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)	Indicators of wetland hydrology present? <u> N </u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: <u>Sample point 200' south of River Trail Drive, west of creek.</u>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-6-UP

Tree Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Picea pungens</i>	50	Y	FACU
2	<i>Prunus serotina</i>	50	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
		100 = Total Cover		

Sapling/Shrub Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Berberis thunbergii</i>	25	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
		25 = Total Cover		

Herb Stratum	Plot Size (5'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>	50	Y	FACU
2	<i>Matteuccia struthiopteris</i>	5	N	FAC
3	<i>Podophyllum peltatum</i>	2	N	FACU
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		57 = Total Cover		

Woody Vine Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds

Tree Stratum	20%	50%
Sapling/Shrub Stratum	5	13
Herb Stratum	11	29
Woody Vine Stratum	0	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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	177	x 4 =	708
UPL species	0	x 5 =	0
Column totals	182	(A)	723 (B)
Prevalence Index = B/A =	<u>3.97</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic 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. (7.6 cm) 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 (1 m) 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? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: DNR-6-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4"	10 YR 2/2	100					Loam sand	Sandy
4-7"	10 YR 2/2	50					Loam sand	
	10 YR 6/2	50					Loam sand	
7-11"	10 YR 4/4	100					Loam sand	
11-18"+	10 YR 5/6	100					Loam sand	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:

Dry soil profile

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-7-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-6-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): flat _____ Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: _____ NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living _____ Drift Deposits (B3) _____ Roots (C3) _____ Algal Mat or Crust (B4) _____ Presence of Reduced Iron (C4) _____ Iron Deposits (B5) _____ Recent Iron Reduction in Tilled _____ Inundation Visible on Aerial _____ Soils (C6) _____ Imagery (B7) _____ Thin Muck Surface (C7) _____ Sparsely Vegetated Concave _____ Other (Explain in Remarks) _____ Surface (B8)	Secondary Indicators (minimum of two required) _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery _____ (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>2"</u> Water table present? Yes <u>X</u> No _____ Depth (inches): <u>12"</u> Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>entire</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Surface water present in creek but not at sample point. Sample point 200' south of River Trail, west side of creek.	

VEGETATION - Use scientific names of plants

Sampling Point: DNR-6-W

Tree Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Fraxinus pennsylvanica</i>	70	Y	FACW
2				
3				
4				
5				
6				
7				
8				
9				
10				

Sapling/Shrub Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Alnus incana</i>	65	Y	FACW
2				
3				
4				
5				
6				
7				
8				
9				
10				

Herb Stratum	Plot Size (5'R)	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Symplocarpus foetidus</i>	75	Y	OBL
2	<i>Matteuccia struthiopteris</i>	2	N	FAC
3	<i>Onoclea sensibilis</i>	1	N	FACW
4	<i>Berberis thunbergii</i>	1	N	FACU
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Woody Vine Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				

50/20 Thresholds

	20%	50%
Tree Stratum	14	35
Sapling/Shrub Stratum	13	33
Herb Stratum	16	40
Woody Vine Stratum	0	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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	75	x 1 =	75
FACW species	136	x 2 =	272
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column totals	214	(A)	357 (B)
Prevalence Index = B/A =	<u>1.67</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic 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. (7.6 cm) 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 (1 m) 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? Y

Remarks: (include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-7-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-7-UP
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____
 Slope (%): 2 Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: OaC NWI Classification: N/A
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u> X </u> Depth (inches): _____ Water table present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)		Indicators of wetland hydrology present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <p style="margin-left: 20px;">Sample taken approximately 500' east of CTH "V", south of creek.</p>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-7-UP

Tree Stratum					50/20 Thresholds		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	20%	50%	
1	<i>Prunus serotina</i>	80	Y	FACU	Tree Stratum	22	55
2	<i>Fraxinus pennsylvanica</i>	30	Y	FACW	Sapling/Shrub Stratum	20	50
3					Herb Stratum	6	15
4					Woody Vine Stratum	0	0
5					Dominance Test Worksheet		
6					Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
7					Total Number of Dominant Species Across all Strata: <u>5</u> (B)		
8					Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)		
9					Prevalence Index Worksheet		
10		110 = Total Cover			Total % Cover of:		
					OBL species	<u>0</u> x 1 =	<u>0</u>
					FACW species	<u>30</u> x 2 =	<u>60</u>
					FAC species	<u>25</u> x 3 =	<u>75</u>
					FACU species	<u>184</u> x 4 =	<u>736</u>
					UPL species	<u>0</u> x 5 =	<u>0</u>
					Column totals	<u>239</u> (A)	<u>871</u> (B)
					Prevalence Index = B/A =	<u>3.64</u>	
Sapling/Shrub Stratum					Hydrophytic Vegetation Indicators:		
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1	<i>Berberis thunbergii</i>	80	Y	FACU	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2	<i>Gleditsia triacanthos</i>	20	Y	FAC	Definitions of Vegetation Strata:		
3					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
4					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
5					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
6					Woody vines - All woody vines greater than 3.28 ft in height.		
7					Hydrophytic vegetation present? <u>N</u>		
8							
9							
10							
11							
12							
13							
14							
15		29 = Total Cover					
Herb Stratum					Remarks: (Include photo numbers here or on a separate sheet)		
Plot Size (5'R)		Absolute % Cover	Dominant Species	Indicator Status			
1	<i>Poa Pratensis</i>	20	Y	FACU			
2	<i>Trillium flexipes</i>	5	N	FAC			
3	<i>Podophyllum peltatum</i>	2	N	FACU			
4	<i>Solidago canadensis</i>	2	N	FACU			
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15		29 = Total Cover					
Woody Vine Stratum							
Plot Size (30'R)		Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		0 = Total Cover					

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Kohler - Town of Wilson Golf Course City/County: Sheboygan Sampling Date: 8-7-2014
 Applicant/Owner: Kohler Company State: WI Sampling Point: DNR-7-W
 Investigator(s): Grant Duchac, Scott Roltgen Section, Township, Range: 14-14-23
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): flat Lat.: _____ Long.: _____ Datum: _____
 Soil Map Unit Name: Pa NWI Classification: T3K
 Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>entire</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>Sample is 500' east of CTH "V", south of small creek.</u>		

VEGETATION - Use scientific names of plants

Sampling Point: DNR-7-W

Tree Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds	
1	<i>Fraxinus pennsylvanica</i>	30	Y	FACW	Tree Stratum	20% 50% 12 30
2	<i>Prunus serotina</i>	30	Y	FACU	Sapling/Shrub Stratum	13 33
3					Herb Stratum	11 27
4					Woody Vine Stratum	0 0
5					Dominance Test Worksheet	
6					Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)	
7					Total Number of Dominant Species Across all Strata: <u>4</u> (B)	
8					Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
9					Prevalence Index Worksheet	
10		60 = Total Cover			Total % Cover of: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>97</u> x 2 = <u>194</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>32</u> x 4 = <u>128</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>179</u> (A) <u>372</u> (B) Prevalence Index = B/A = <u>2.08</u>	
Sapling/Shrub Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status		
1	<i>Alnus incana</i>	65	Y	FACW	Hydrophytic Vegetation Indicators:	
2					<input type="checkbox"/> Rapid test for hydrophytic vegetation	
3					<input checked="" type="checkbox"/> Dominance test is >50%	
4					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*	
5					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
6					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
7					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
8					Definitions of Vegetation Strata:	
9					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
10					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
11					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
12					Woody vines - All woody vines greater than 3.28 ft in height.	
13						
14						
15		54 = Total Cover				
Woody Vine Stratum	Plot Size (30'R)	Absolute % Cover	Dominant Species	Indicator Status		
1					Hydrophytic vegetation present? <u>Y</u>	
2						
3						
4						
5		0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet)						

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Linear	Latitude: N/A	Longitude: N/A
Landform: Terrace	Datum: N/A	Wetland ID: W1	Sample Point: 8u
Slope (%): 0-2	Community ID: upland deciduous forest	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	
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 type="checkbox"/> Yes <input checked="" 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"/> 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 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: >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: **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	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	
--	--	--	--	--	--	--		--	--	--	
--	--	--	--	--	--	--		--	--	--	
--	--	--	--	--	--	--		--	--	--	
--	--	--	--	--	--	--		--	--	--	
--	--	--	--	--	--	--		--	--	--	

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, 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) <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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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: **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		

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: 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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		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: 8W
Latitude: N/A		Longitude: N/A	Community ID: Forested Wetland
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 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 	<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 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: 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 2 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)
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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 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		

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>	

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		

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>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		

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: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Datum: N/A	Wetland ID: W1	Sample Point: 9/10w
Slope (%): 0-2	Community ID: Forested Wetland	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	
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 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 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"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <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)
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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 2 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	--	--	--	--	--	sandy muck
8	20	B	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 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)
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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
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Remarks: **The soil at the sample plot meets the A11 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: **W1** Sample Point **9/10w**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<i>Species Name</i>	% 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)				
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)				
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)				
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.				

Additional Remarks:

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)	Total <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

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A
Landform: Terrace	Datum: N/A	Wetland ID: W1	Sample Point: 9u
Slope (%): 0-2	Community ID: upland deciduous forest	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	
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 type="checkbox"/> Yes <input checked="" 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"/> 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 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: >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: **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	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
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--

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, 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) <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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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: **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		

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: 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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3/E1K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A
Landform: Terrace	Datum: N/A	Community ID: upland deciduous forest	Section: 14
Slope (%): 0-2	Are climatic/hydrologic conditions on the site typical for this time of year? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	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"/> significantly disturbed?			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: **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"/> 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 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: >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	8	A	10YR	2/1	100	--			--	--	loamy sand
8	10	E	10YR	6/1	100	--			--	--	loamy sand
10	24	B	10YR	4/4	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 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)
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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
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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 **10u**

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>Fagus grandifolia</i>	20	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		50		

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>60</u>	x 4 =	<u>240</u>
UPL spp. <u>90</u>	x 5 =	<u>450</u>
Total <u>155</u> (A)		<u>705</u> (B)
Prevalence Index = B/A =		<u>4.548</u>

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		

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>Carex pensylvanica</i>	70	Y	UPL
2.	<i>Aster macrophyllus</i>	15	N	UPL
3.	<i>Trillium cernuum</i>	5	N	UPL
4.	<i>Dryopteris intermedia</i>	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		95		

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 not hydrophytic.

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: N/A	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Datum: N/A	Community ID: Forested Wetland	Section: 14
Slope (%): 0-2	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	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"/> significantly disturbed?	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 forested wetland adjacent to mapped intermittent stream. 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 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: 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 2 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	--	--	--	--	--	sandy loam
6	20	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 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)
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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 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.**



WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: **Kohler Golf Course** Wetland ID: **W1** Sample Point **11/12w**

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>60</u>	x 1 =	<u>60</u>
FACW spp.	<u>50</u>	x 2 =	<u>100</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>120</u> (A)	<u>200</u> (B)
Prevalence Index = B/A =		<u>1.667</u>	

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

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>Leersia oryzoides</i>	50	Y	OBL
2.	<i>PHALARIS ARUNDINACEA</i>	15	N	FACW
3.	<i>Laportea canadensis</i>	10	N	FACW
4.	<i>Symplocarpus foetidus</i>	5	N	OBL
5.	<i>Iris versicolor</i>	5	N	OBL
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		85		

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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3/E1K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A
Landform: Side slope	Datum: N/A	Community ID: upland deciduous forest	Section: 14
Slope (%): 2-6	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	Township: 14N
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?			

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"/> 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)
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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: **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	5/3	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 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)
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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: **W1** Sample Point **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>Ostrya virginiana</i>	30	Y	FACU
2.	<i>Prunus serotina</i>	15	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>	60	Y	FACU
2.	<i>Hamamelis virginiana</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>Caulophyllum thalictroides</i>	20	Y	UPL
2.	<i>BERBERIS THUNBERGII</i>	15	Y	UPL
3.	<i>Viola palmata</i>	10	N	UPL
4.	<i>Trillium cernuum</i>	5	N	FAC
5.	<i>Solidago gigantea</i>	5	N	FACW
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		

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: 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>5</u>	x 2 = <u>10</u>
FAC spp. <u>5</u>	x 3 = <u>15</u>
FACU spp. <u>120</u>	x 4 = <u>480</u>
UPL spp. <u>45</u>	x 5 = <u>225</u>
Total <u>175</u> (A)	Total <u>730</u> (B)
Prevalence Index = B/A = <u>4.171</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 #: 193703195		Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		Soil Unit: Oakville loamy fine sand		State: Wisconsin
Landform: Terrace		Local Relief: Convex		Wetland ID: W1
Slope (%): 2-6		Latitude: N/A		Sample Point: 12u
		Longitude: N/A		Community ID: upland deciduous 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No		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"/> 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				

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"/> 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)
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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.**

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	3/2	100	--			--	loamy sand
8	20	B	10YR	4/4	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 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)
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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: **W1** Sample Point **12u**

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>Acer saccharum</i>	5	N	FACU
3.	<i>Quercus rubra</i>	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		50		

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)

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>BERBERIS THUNBERGII</i>	60	Y	FACU
2.	<i>Prunus serotina</i>	15	N	FACU
3.	<i>Viburnum lentago</i>	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		80		

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>7</u>	x 3 =	<u>21</u>	
FACU spp. <u>140</u>	x 4 =	<u>560</u>	
UPL spp. <u>65</u>	x 5 =	<u>325</u>	
Total <u>217</u> (A)		916 (B)	
Prevalence Index = B/A =		<u>4.221</u>	

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Carex pensylvanica</i>	40	Y	UPL
2.	<i>Caulophyllum thalictroides</i>	15	Y	UPL
3.	<i>Dryopteris intermedia</i>	10	N	UPL
4.	<i>BERBERIS THUNBERGII</i>	10	N	FACU
5.	<i>PHALARIS ARUNDINACEA</i>	5	N	FACW
6.	<i>Viola palmata</i>	5	N	FACU
7.	<i>Trillium cernuum</i>	2	N	FAC
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		87		

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.

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 not hydrophytic.**

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195		Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K		State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A	Datum: N/A
Landform: Terrace	Slope (%): 0-2			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				Sample Point: 13/14u
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 deciduous forest
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		
				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: **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"/> 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)
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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>
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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=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):

<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)
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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
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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: **W1** Sample Point **13/14u**

VEGETATION (Species identified in all uppercase are non-native species.)				
Tree Stratum (Plot size: 10 meter radius)				
	<i>Species Name</i>	% 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)				
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)				
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)				
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: <u>2</u> (A)	
Total Number of Dominant Species Across All Strata: <u>11</u> (B)	
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>18.2%</u> (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:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Rapid Test for Hydrophytic Vegetation
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Dominance Test is > 50%
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Prevalence Index is ≤ 3.0 *
<input type="checkbox"/> Yes <input type="checkbox"/> No	Morphological Adaptations (Explain) *
<input type="checkbox"/> Yes <input type="checkbox"/> 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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195		Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		Soil Unit: Adrian muck		State: Wisconsin
Landform: Depression		Local Relief: Concave		Wetland ID: W1
Slope (%): 0-2		Latitude: N/A		Sample Point: 13W
		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		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"/> significantly disturbed?				Range: 23 Dir: E
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input type="checkbox"/> Yes <input checked="" 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 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 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: 8 (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.**

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 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"/> 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)
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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
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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: **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>Symphotrichum 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		

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

Additional Remarks:

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)	Total <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

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		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: 14W
Latitude: N/A		Longitude: N/A	Community ID: Forested Wetland
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 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 	<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 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.)
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.)
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

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.**

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
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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"/> 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, 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) <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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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 F3 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: **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		

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>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
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		

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>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		

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.	<i>Vitis riparia</i>	10	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		10		

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 #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K		State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A	Datum: N/A
Landform: Side slope	Slope (%): 2-6	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				Sample Point: 15u
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 deciduous forest
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Township: 14N		Section: 14
		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 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: >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, 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) <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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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
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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: **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	Y	FACU
4.	<i>LONICERA TATARICA</i>	10	Y	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		

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: 9 (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>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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Slope (%): 0-2	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			Sample Point: 15W
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		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 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 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: 16 (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.**

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	3/1	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):

<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, 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) <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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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
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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		

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>	

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		

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>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		

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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		Soil Unit: Oakville loamy fine sand	State: Wisconsin
Landform: Side slope		NWI/WWI Classification: N/A	Wetland ID: W1
Slope (%): 2-6		Local Relief: Convex	Sample Point: 16u
Latitude: N/A		Longitude: N/A	Community ID: upland fallow field
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 fallow field. 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 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: >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: **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			Mottles				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	6	A	10YR	3/2	100	--			--	--	loamy sand
6	30	B	10YR	5/6	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"/> 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)
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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.**



WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: **Kohler Golf Course** Wetland ID: **W1** Sample Point **16u**

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>	70	Y	FAC
2.	<i>BROMUS INERMIS</i>	30	Y	UPL
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		

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: 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>70</u>	x 3 = <u>210</u>
FACU spp. <u>0</u>	x 4 = <u>0</u>
UPL spp. <u>30</u>	x 5 = <u>150</u>
Total <u>100</u> (A)	Total <u>360</u> (B)
Prevalence Index = B/A = <u>3.600</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 #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: N/A	State: Wisconsin
Soil Unit: Oakville loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Slope (%): 0-2	Datum: N/A	Wetland ID: W2
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	
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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Community ID: Wet Meadow		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 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 	<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"/> 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)
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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: >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.**

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):

<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)
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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
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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.**



WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

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	Dominant
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.	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)			
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)	200 (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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann			State: Wisconsin
Soil Unit: Oakville loamy fine sand	NWI/WWI Classification: N/A		Wetland ID: W2
Landform: Flat hill top	Local Relief: Convex		Sample Point: 17/18u
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			Community ID: upland fallow field/trail
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		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 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):

<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 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>
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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: **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	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
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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)
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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
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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. 16" of clay fill was placed to stabilize a wet spot in the trail.**



WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

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.	<i>PLANTAGO MAJOR</i>	30	Y	FAC
2.	<i>TRIFOLIUM REPENS</i>	20	N	UPL
3.	<i>POA PRATENSIS</i>	30	Y	FACU
4.	<i>DAUCUS CAROTA</i>	15	N	UPL
5.	<i>TARAXACUM OFFICINALE</i>	5	N	FACU
6.	<i>PHLEUM PRATENSE</i>	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		

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: 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

Additional Remarks:

Vegetation appears to be mowed on a regular basis as trail maintenance.

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		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: 17W
Latitude: N/A		Longitude: N/A	Community ID: Wet Meadow
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 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 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 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: 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 2 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
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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)
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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
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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.**



WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

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>Symphyotrichum lanceolatum</i>	25	N	FACW
3.	<i>Euphorbia maculata</i>	10	N	FACU
4.	<i>Oncoclea 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		

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>0</u>	x 1 = <u>0</u>
FACW spp. <u>95</u>	x 2 = <u>190</u>
FAC spp. <u>10</u>	x 3 = <u>30</u>
FACU spp. <u>10</u>	x 4 = <u>40</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>115</u> (A)	Total <u>260</u> (B)
Prevalence Index = B/A = <u>2.261</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 #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann			State: Wisconsin
Soil Unit: Oakville loamy fine sand	NWI/WWI Classification: T3K		Wetland ID: W1
Landform: Depression	Local Relief: Concave		Sample Point: 18W
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			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	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		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 	<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 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: 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 2 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 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 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)
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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
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Remarks: **The soil at the sample plot meets the A11 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: **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		

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)

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		

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>	

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>AGROSTIS GIGANTEA</i>	40	Y	FACW
2.	<i>Symphyotrichum 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		

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.

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 #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		Soil Unit: Granby loamy fine sand		State: Wisconsin
Landform: Terrace		Local Relief: Convex		Wetland ID: W1
Slope (%): 0-2		Latitude: N/A		Sample Point: 19/20u
		Longitude: N/A		Community ID: upland deciduous 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No		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"/> significantly disturbed?				Range: 23 Dir: E
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input type="checkbox"/> Yes <input checked="" 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. 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 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: 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: **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	4/4	100	--			--		loamy sand
18	30	B	10YR	6/1	90	10YR	5/6	10	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)
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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: **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		

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>	

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		

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>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		

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 not hydrophytic.**

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/13/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		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: 19W
Latitude: N/A		Longitude: N/A	Community ID: Forested Wetland
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 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 	<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"/> 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)
--	--

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 2 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 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? 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: **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		

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: 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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Slope (%): 0-2	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		Community ID: Forested Wetland	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Section: 14	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Township: 14N	
Are normal circumstances present? <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 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 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: 8 (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 2 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	--			--	organic sandy loam
8	18	B	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 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)
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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
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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 **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		

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: 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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Adrian muck	Local Relief: Convex	Latitude: N/A	Longitude: N/A
Landform: Terrace	Slope (%): 2-6	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			Sample Point: 21u
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		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 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: >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: **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	3	A	10YR	3/2	100	--			--	--	loamy sand
3	20	B	10YR	4/4	100	--			--	--	loamy sand
20	28	B	10YR	5/2	100	--			--	--	loamy sand
28	36	B	10YR	5/2	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)
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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: **W1** Sample Point **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>Prunus serotina</i>	40	Y	FACU
2.	<i>Fagus grandifolia</i>	35	Y	FACU
3.	<i>Fraxinus pennsylvanica</i>	10	N	FAC
4.	<i>Betula alleghaniensis</i>	5	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>Rubus allegheniensis</i>	5	Y	FACU
2.	<i>BERBERIS THUNBERGII</i>	5	Y	FACU
3.	<i>LONICERA TATARICA</i>	5	Y	FACU
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. IDAEUS</i>	15	Y	FAC
2.	<i>BERBERIS THUNBERGII</i>	10	Y	FACU
3.	<i>Fagus grandifolia</i>	5	N	FACU
4.	<i>Maianthemum canadense</i>	5	N	FACU
5.	<i>Podophyllum peltatum</i>	2	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
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		

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:	<u>1</u> (A)
Total Number of Dominant Species Across All Strata:	<u>7</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>14.3%</u> (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>112</u>	x 4 = <u>448</u>
UPL spp. <u>0</u>	x 5 = <u>0</u>
Total <u>142</u> (A)	<u>538</u> (B)
Prevalence Index = B/A = <u>3.789</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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195		Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		Soil Unit: Adrian muck		State: Wisconsin
Landform: Depression		Local Relief: Concave		Wetland ID: W1
Slope (%): 0-2		Latitude: N/A		Sample Point: 21W
		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		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"/> significantly disturbed?				Range: 23 Dir: E
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input 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 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 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: 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 2 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	7	A	10YR	2/1	100	--			--	--	loamy sand
7	18	B	10YR	6/1	85	10YR	5/6	15	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)
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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
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Remarks: **The soil at the sample plot meets the 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 **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.	<i>Fraxinus pennsylvanica</i>	35	Y	FACW
2.	<i>Prunus serotina</i>	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		45		

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>20</u>	x 1 =	<u>20</u>
FACW spp.	<u>140</u>	x 2 =	<u>280</u>
FAC spp.	<u>40</u>	x 3 =	<u>120</u>
FACU spp.	<u>15</u>	x 4 =	<u>60</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>215</u> (A)	<u>480</u> (B)
Prevalence Index = B/A =		<u>2.233</u>	

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

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>Urtica dioica</i>	30	Y	FAC
2.	<i>Solidago gigantea</i>	20	Y	FACW
3.	<i>Onoclea sensibilis</i>	15	Y	FACW
4.	<i>Laportea canadensis</i>	10	N	FACW
5.	<i>Symplocarpus foetidus</i>	10	N	OBL
6.	<i>Solanum ptychanthum</i>	5	N	FACU
7.	<i>Carex blanda</i>	5	N	FAC
8.	<i>Iris versicolor</i>	10	N	OBL
9.	<i>Dryopteris intermedia</i>	5	N	FAC
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		110		

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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A
Landform: Side slope	Datum: N/A	Wetland ID: W1	Sample Point: 22u
Slope (%): 2-6	Community ID: upland deciduous forest	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	
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 type="checkbox"/> Yes <input checked="" 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. 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 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: 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: **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	3/1	100	--						loamy sand
7	24	B	10YR	4/3	90	10YR	4/6	10	C	M		loamy sand
24	36	B	10YR	4/2	90	10YR	4/6	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)
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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: **W1** Sample Point **22u**

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>	50	Y	FACU
2.	<i>Fagus grandifolia</i>	30	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		80		

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>10</u>	x 2 =	<u>20</u>
FAC spp.	<u>42</u>	x 3 =	<u>126</u>
FACU spp.	<u>207</u>	x 4 =	<u>828</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>259</u> (A)	<u>974</u> (B)
Prevalence Index = B/A =		<u>3.761</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Prunus serotina</i>	40	Y	FACU
2.	<i>BERBERIS THUNBERGII</i>	30	Y	FACU
3.	<i>Sambucus nigra</i>	10	N	FACW
4.	<i>Fagus grandifolia</i>	5	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 =		95		

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>POA PRATENSIS</i>	30	Y	FAC
2.	<i>GLECHOMA HEDERACEA</i>	15	Y	FACU
3.	<i>Oxalis stricta</i>	10	Y	FACU
4.	<i>Fagus grandifolia</i>	5	N	FACU
5.	<i>Galium boreale</i>	5	N	FAC
6.	<i>TARAXACUM OFFICINALE</i>	5	N	FACU
7.	<i>PLANTAGO MAJOR</i>	5	N	FACU
8.	<i>VICIA SATIVA</i>	5	N	FACU
9.	<i>Geum aleppicum</i>	2	N	FAC
10.	<i>Geranium maculatum</i>	2	N	FACU
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		84		

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 not hydrophytic.

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195		Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		Soil Unit: Granby loamy fine sand		State: Wisconsin
Landform: Depression		Local Relief: Concave		Wetland ID: W1
Slope (%): 0-2		Latitude: N/A		Sample Point: 22W
		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		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"/> significantly disturbed?				Range: 23 Dir: E
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? <input type="checkbox"/> Yes <input checked="" 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 	<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 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: 14 (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 2 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	7	A	10YR	2/1	100	--						loamy sand
7	24	B	10YR	6/1	95	10YR	4/6	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"/> 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)
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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
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Remarks: **The soil at the sample plot meets the A11 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: **W1** Sample Point **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.	<i>Fraxinus pennsylvanica</i>	35	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		35		

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)

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		

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL spp. <u>60</u>	x 1 = <u>60</u>
FACW spp. <u>90</u>	x 2 = <u>180</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>155</u> (A)	Total <u>260</u> (B)
Prevalence Index = B/A = <u>1.677</u>	

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Laportea canadensis</i>	30	Y	FACW
2.	<i>Carex hystericina</i>	25	Y	OBL
3.	<i>Iris versicolor</i>	15	N	OBL
4.	<i>Calamagrostis canadensis</i>	15	N	OBL
5.	<i>Onoclea sensibilis</i>	10	N	FACW
6.	<i>Symplocarpus foetidus</i>	5	N	OBL
7.	<i>Geranium maculatum</i>	5	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		105		

- 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.

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 #2: Mark Remington		County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K		State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A	Datum: N/A
Landform: Terrace	Slope (%): 0-2			Wetland ID: W1/W3
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				Sample Point: 23/24u
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 deciduous forest
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		Township: 14N		Section: 14
		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 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: >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	7	A	10YR	3/1	100	--						loamy sand
7	24	B	10YR	4/3	90	10YR	4/6	10	C	M		loamy sand
24	36	B	10YR	4/2	90	10YR	4/6	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)
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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: **W1/W3** Sample Point **23/24u**

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>	35	Y	FACU																								
2.	<i>Fraxinus pennsylvanica</i>	30	Y	FACW																								
3.	<i>Betula papyrifera</i>	10	N	FAC																								
4.	--	--	--	--																								
5.	--	--	--	--																								
6.	--	--	--	--																								
7.	--	--	--	--																								
8.	--	--	--	--																								
9.	--	--	--	--																								
10.	--	--	--	--																								
Total Cover =		75																										
Sapling/Shrub Stratum (Plot size: 5 meter radius)																												
1.	<i>BERBERIS THUNBERGII</i>	85	Y	FACU																								
2.	<i>Prunus serotina</i>	5	N	FACU																								
3.	--	--	--	--																								
4.	--	--	--	--																								
5.	--	--	--	--																								
6.	--	--	--	--																								
7.	--	--	--	--																								
8.	--	--	--	--																								
9.	--	--	--	--																								
10.	--	--	--	--																								
Total Cover =		90																										
Herb Stratum (Plot size: 2 meter radius)																												
1.	<i>Viola palmata</i>	5	Y	FAC																								
2.	<i>Maianthemum canadense</i>	5	Y	FACU																								
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: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)																												
Prevalence Index Worksheet Total % Cover of: <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td>OBL spp.</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW spp.</td> <td align="center"><u>30</u></td> <td>x 2 =</td> <td align="center"><u>60</u></td> </tr> <tr> <td>FAC spp.</td> <td align="center"><u>15</u></td> <td>x 3 =</td> <td align="center"><u>45</u></td> </tr> <tr> <td>FACU spp.</td> <td align="center"><u>130</u></td> <td>x 4 =</td> <td align="center"><u>520</u></td> </tr> <tr> <td>UPL spp.</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Total</td> <td align="center"><u>175</u></td> <td>(A)</td> <td align="center"><u>625</u></td> </tr> </table> Prevalence Index = B/A = <u>3.571</u> (B)					OBL spp.	<u>0</u>	x 1 =	<u>0</u>	FACW spp.	<u>30</u>	x 2 =	<u>60</u>	FAC spp.	<u>15</u>	x 3 =	<u>45</u>	FACU spp.	<u>130</u>	x 4 =	<u>520</u>	UPL spp.	<u>0</u>	x 5 =	<u>0</u>	Total	<u>175</u>	(A)	<u>625</u>
OBL spp.	<u>0</u>	x 1 =	<u>0</u>																									
FACW spp.	<u>30</u>	x 2 =	<u>60</u>																									
FAC spp.	<u>15</u>	x 3 =	<u>45</u>																									
FACU spp.	<u>130</u>	x 4 =	<u>520</u>																									
UPL spp.	<u>0</u>	x 5 =	<u>0</u>																									
Total	<u>175</u>	(A)	<u>625</u>																									
Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																												
Definitions of Vegetation Strata: <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p>																												
Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Datum: N/A	Wetland ID: W3	Sample Point: 23W
Slope (%): 0-2	Community ID: Isolated Forested Wetland	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	
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 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 an isolated 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 	<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 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: 9 (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: **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	18	B	10YR	6/1	85	10YR	5/6	15	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, 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) <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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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
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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.**



WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: **Kohler Golf Course** Wetland ID: **W3** Sample Point **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.	<i>Fraxinus pennsylvanica</i>	40	Y	FACW
2.	--		--	--
3.	--		--	--
4.	--		--	--
5.	--		--	--
6.	--		--	--
7.	--		--	--
8.	--		--	--
9.	--		--	--
10.	--		--	--
Total Cover =		40		

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)

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

Prevalence Index Worksheet

Total % Cover of:	Multiply by:		
OBL spp. <u>5</u>	x 1 =	<u>5</u>	
FACW spp. <u>125</u>	x 2 =	<u>250</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>134</u> (A)		<u>269</u> (B)	
Prevalence Index = B/A =		<u>2.007</u>	

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Cinna arundinacea</i>	30	Y	FACW
2.	<i>PHALARIS ARUNDINACEA</i>	25	Y	FACW
3.	<i>Onoclea sensibilis</i>	15	N	FACW
4.	<i>Laportea canadensis</i>	15	N	FACW
5.	<i>Symplocarpus foetidus</i>	5	N	OBL
6.	<i>SOLANUM DULCAMARA</i>	2	N	FAC
7.	--		--	--
8.	--		--	--
9.	--		--	--
10.	--		--	--
11.	--		--	--
12.	--		--	--
13.	--		--	--
14.	--		--	--
15.	--		--	--
Total Cover =		92		

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.

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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Datum: N/A	Wetland ID: W1	Sample Point: 24W
Slope (%): 0-2	Community ID: Forested Wetland	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	
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 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 	<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 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: 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 2 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	85	10YR	5/6	15	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"/> 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)
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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
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Remarks: **The soil at the sample plot meets the A11 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: **W1** Sample Point **24W**

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.	<i>Prunus serotina</i>	5	N	FACU
3.	--		--	--
4.	--		--	--
5.	--		--	--
6.	--		--	--
7.	--		--	--
8.	--		--	--
9.	--		--	--
10.	--		--	--
Total Cover =		40		

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>74</u>	x 1 =	<u>74</u>
FACW spp.	<u>35</u>	x 2 =	<u>70</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>62</u>	x 4 =	<u>248</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>171</u> (A)	<u>392</u> (B)
Prevalence Index = B/A =		<u>2.292</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>BERBERIS THUNBERGII</i>	40	Y	FACU
2.	<i>Prunus serotina</i>	2	N	FACU
3.	--		--	--
4.	--		--	--
5.	--		--	--
6.	--		--	--
7.	--		--	--
8.	--		--	--
9.	--		--	--
10.	--		--	--
Total Cover =		42		

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>Carex stricta</i>	55	Y	OBL
2.	<i>Symplocarpus foetidus</i>	10	N	OBL
3.	<i>Viola palmata</i>	10	N	FACU
4.	<i>Juncus effusus</i>	5	N	OBL
5.	<i>Geranium maculatum</i>	5	N	FACU
6.	<i>Lycopus virginicus</i>	2	N	OBL
7.	<i>Cicuta maculata</i>	2	N	OBL
8.	--		--	--
9.	--		--	--
10.	--		--	--
11.	--		--	--
12.	--		--	--
13.	--		--	--
14.	--		--	--
15.	--		--	--
Total Cover =		89		

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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Convex	Latitude: N/A	Longitude: N/A
Landform: Side slope	Datum: N/A	Wetland ID: W1	Sample Point: 25u
Slope (%): 2-6	Community ID: upland deciduous forest	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	
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 type="checkbox"/> Yes <input checked="" 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. 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 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: 28 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 23 (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=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 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)
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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
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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: **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 cernuum</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		

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: 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

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: T3K	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Datum: N/A	Wetland ID: W1	Sample Point: 25W
Slope (%): 0-2	Community ID: Forested Wetland	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	
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 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 	<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"/> 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)
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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: 8 (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: **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 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)
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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
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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 **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		

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>	

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		

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>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		

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 #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: N/A	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Slope (%): 2-6	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		Sample Point: 26u	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Community ID: upland swale	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 14	
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		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):

<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 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: >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 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)
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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: **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		

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>	

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		

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>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		

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 not hydrophytic.

Additional Remarks:

Project/Site: Kohler Golf Course		Stantec Project #: 193703195	Date: 08/14/14
Applicant: Excel Engineering		Investigator #2: Mark Remington	County: Sheboygan
Investigator #1: Chuck Herrmann		NWI/WWI Classification: N/A	State: Wisconsin
Soil Unit: Granby loamy fine sand	Local Relief: Concave	Latitude: N/A	Longitude: N/A
Landform: Depression	Slope (%): 0-2	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			Sample Point: 26W
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Community ID: wet meadow	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 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 	<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"/> 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)
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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 2 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	24	B	10YR	4/2	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 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)
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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
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Remarks: **The soil at the sample plot meets the A11 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: **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)				
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>	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)				
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: 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

Additional Remarks:

APPENDIX B
SITE PHOTOGRAPHS



BR Wetland west side



Black River



RT Wetland



RT Wetland & creek



RT-1-UP



RT-2-W



DNR-1-U



DNR-1-W



DNR-3-W



DNR-3-U



DNR-3-U



DNR-3-U



DNR-3-U



DNR-3-U



DNR-3-W



DNR-4-W



DNR-4-U



DNR-4-U



DNR-4-W



DNR-4-W



DNR-5-W



DNR-5-W



DNR-5-U



RT-3-UP



RT-4-W



RT-3-U



RT-4-W



RT-6-U



RT-6-U



RT-6-U



DNR-6-U



DNR-6-W



DNR-6-W



DNR-6-U



DNR-7-W



DNR-7-U



DNR-7-W



DNR-7-W



DNR-7-U



DNR-7-UP







9-10w







11-12w







13-14u















17-18u































