

This document is the fact sheet for

PIT/TRENCH DEWATERING WPDES Permit No. WI-0049344-4, September 2012,

GENERAL PERMIT COVERAGE

General Permits (GP) are designed to cover discharges from a class of facilities or industries that are similar in nature. When a GP is issued, all facilities meeting its requirements are covered by the GP. GP's currently exist for groundwater remediations, swimming pools and numerous other types of facilities. For facilities that are eligible for coverage under a GP, the Department sends a letter of coverage to the facility and indicates a copy of the permit. The letter of coverage is the Department's determination on a facility's discharge coverage under the GP and may specify alternate requirements outlined in the permit such as modified sampling frequencies for certain parameters or the inclusion of monitoring for parameters in addition to those requiring regular monitoring.

MORE THAN ONE GP CAN APPLY

A facility may need to be covered under more than one GP, depending on the different types of waste streams that a facility discharges. A facility that manufacturer concrete block could also mine gravel on site. The wastewater from the concrete block operation could be discharged in compliance with one GP and the wastewater from the gravel mining operation could be discharged in compliance with a different GP. However, a facility that requires an individual permit for any part of its discharge shall have all of its discharges covered under an individual permit. The only exception would be for a facility that commences a discharge that is eligible for a GP, after a specific permit has already been issued or reissued for the facility. For example, a facility that currently has an individual permit may begin a process that results in the discharge of noncontact cooling water. The noncontact cooling water discharge can be covered under a GP, as long as it meets the requirements of the GP, until the individual permit can be reissued or modified to include the noncontact cooling water discharge.

GENERAL DESCRIPTION OF OPERATIONS COVERED UNDER THIS GP

This permit is applicable to facilities with point source discharges of water from low areas such as pits, trenches, ponds, etc., that do not contain process wastes that would contain pollutants other than suspended solids and oil and grease.

A. Pit/Trench Dewatering Wastewater

The wastewaters covered under this general permit are primarily contaminated with suspended solids, with no other pollutants of concern requiring treatment for removal beyond simple gravity settling. Oil and grease may be associated with these discharges as a result of the presence of machinery near the pit or trench. Examples of some facilities that may be regulated by this general permit include: construction pits, sewer extension construction, pipe trenches, and other similar operations.

Dewatering wastewater may be removed for treatment by siphoning, pumping, or other means. A variety of treatment equipment may be used, but treatment commonly consists of seepage or settling. Common types of seepage areas include: ponds, trenches, low areas, and grassed swales. Common types of settling equipment include: steel tanks, concrete tanks, and ponds (lined and unlined). A few important design considerations for settling equipment include: inlet

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structure, outlet structure, overall dimensions and shape, prevention of short circuiting, maintaining hydraulic capacity, preventing of carryover of removed particles, unhindered settling depth, sludge compaction, sludge removal, overflow rate, and hydraulic retention time. Treatment equipment may have baffles, inclined plates, chemical addition, etc. Solids removed during treatment are stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state.

The above described gravity settling system can usually meet the limits at start-up provided it is designed with sufficient retention time and operated properly. Sediment build up will reduce the retention time and must be removed to stay within the operation design capacity.

The use of filtering systems must meet the same requirements as the gravity settling systems. A system of filter bags or tubes consisting of properly sized geo-textile is filled with pit/trench water. Some water pressure may be applied. A filter cake develops on the inside of the bags and also acts as a filter. These systems should have a method to re-circulate filtered water back through the system until the filter cake is developed and the limit is met before discharging. The filter bags or tubes must be serviced to remove collected sediment and maintain filtering capacity.

With high levels of colloidal clay, there may be a need to use a flocculating agent to meet the limit. In these cases, the design should include provisions to add a flocculent. Note chemical additives used to flocculate colloidal clay must be reviewed to determine compliance with requirement 1.2.8.

The presence of oil and grease at levels exceeding the permit limits may require the use of an oil/water separator. Discharges from a properly sized and operated oil/water separator can easily meet the oil and grease limit.

CHANGES FROM THE PREVIOUS GENERAL PERMIT REISSUANCE

The following briefly describes the main permit changes.

Requirements for Discharges to 303(d) Listed Impaired Surface Waters and TMDL allocations have been added. The applicability sections of the permit and the fact sheet address this requirement. See subsection D. (9), below for explanation and subsection 4.8 of the permit.

Reminder: The fact sheet was revised in July 2009 by adding a support document for addressing R&R sites. The support document is further revised and now titled the Support Document for the Pit/Trench Dewatering General Permit, R&R Sites and Contaminated Groundwater, and Related Drinking and Groundwater Program Requirements, dated September 2012. The support document is referenced in subsection B. (3). This same subsection notes that water supply plans and specs approval and a Water Use general permit may be required under different code requirements.

Reporting of results for the Pit/Trench dewatering general permit shall be as specified in the letter of coverage or report form, and at a minimum, shall be by January 15th of the following year.

RATIONALE FOR PERMIT REQUIREMENTS

A. APPLICABILITY CRITERIA

(1) Facilities Covered

This permit is applicable to discharges of pit/trench dewatering water directly to surface waters or indirectly to groundwaters via seepage. The types of facilities covered under this general permit typically have dewatering discharges that contain suspended solids and low levels of oil and grease as the main contaminants.

(2) Facilities Not Covered

Pit Dewatering Operations Not Allowed Under this Permit

This permit does not authorize wastewater pit dewatering discharges resulting from storage of coal, salt, food by-products, or other storage facilities that have wastewater contaminated with pollutants other than suspended solids. These discharges likely require the limitations and oversight associated with an individual permit.

Contaminated Groundwater

Since pit dewatering discharges may include infiltrated groundwater that is contaminated, this permit contains a condition that states that this permit does not authorize discharges of contaminated groundwater (treated or untreated). This permit does not contain the conditions and limitations necessary for adequate regulation of contaminated groundwater discharges. The Remedial Action GP may be appropriate in these situations.

To assist in the evaluation of a request for general permit coverage, with respect to potentially contaminated groundwater, the database of known contamination sites in the Remediation and Redevelopment program (R&R) is referenced. The applicant is asked to reference this internet-available database and provide the generated map for the proposed project area showing active and inactive R&R sites. See Attachment to this Fact Sheet and the revised Request for Coverage form. (Paragraph added July 2009.) The attachment is: Support Document for the Pit/Trench Dewatering General Permit, R&R Sites and Contaminated Groundwater, and Related Drinking and Groundwater Program Requirements.

Construction Sites Covered Under a Storm Water Permit

If a discharge is appropriately covered by the WPDES construction site storm water discharge permit, then this permit does not apply to the discharge. This is intended to avoid duplicate permitting of a facility. Note that the above general permit does not typically cover high capacity dewatering well systems and may not cover dewatering of significant amounts of groundwater. Discharges routed around or by-passing the storm water runoff control system are not covered by the above ch. NR 216 general permit and need this pit/trench general permit. Note that in the case of generally clean groundwater, it may be practical to by-pass the storm water system.

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Wetlands

Discharges covered under this permit shall meet the wetland protection requirements of ch. NR 103, Wis. Adm. Code, and shall not significantly adversely impact wetlands. For discharges that impact wetlands, a facility will need to submit information that allows the Department to determine if a discharge meets code requirements.

Endangered Resources and Historic Sites

The Department may withhold permit coverage in order to request additional information or to review project compliance with endangered and threatened resources or historic property requirements.

Outstanding and Exceptional Resource Waters

Discharges to outstanding and exceptional resource waters are not authorized by this permit. Regulation of discharges to outstanding and exceptional resource waters requires an individual permit which provides the oversight and discharge limitations necessary to protect these types of receiving waters.

Surface Water and Groundwater Standards

The discharges from facilities eligible for this permit are not expected to exceed any surface water or groundwater standards. Facilities with discharges that may violate surface water quality standards or groundwater quality standards require the oversight available under an individual permit.

303d listed water body or a TMDL covered waterbody

The discharges to a 303d listed water body or a TMDL covered waterbody that is not in conformity with best management practices or the TMDL load allocation. Typically a discharge that is in compliance with the general permit requirements will also be in compliance with an impaired water objectives or TMDL requirements.

Bioaccumulating Toxic Substances

The discharges from facilities eligible for this permit are not expected to add any of the 21 bioaccumulating toxic substances. This permit categorically does not authorize discharge of any of the 21 bioaccumulating toxic substances. Regulation of these compounds requires an individual permit.

B. REQUIREMENTS FOR ALL COVERED FACILITIES

The following requirements apply to all facilities covered by this permit. Facilities discharging to either groundwaters or surface waters are required to meet the following requirements.

(1) Prevent Pond Overflow

Leakage through dikes or berms may cause sloughing or washouts; the integrity of the

containment area must be maintained.

(2) Adequate Design

Chapter NR 205 identifies the design rainfall amount and probable intensity of 10-year and 25-year, 24-hour rainfall events for locations in Wisconsin. For facilities where a wastewater disposal or treatment facility is needed to meet permit requirements, this permit only requires that treatment systems be capable of handling the water resulting from a storm having a 10-year, 24-hour event frequency which falls within or flows into the area of the treatment/disposal system. This design parameter is common to industrial treatment facilities in Wisconsin. Treatment systems must have sufficient capacity to allow adequate retention time for settling. Precipitation must be taken into account for exposed settling systems.

Wastewater discharge from the site shall not cause the erosion of soils in the receiving area.

(3) Important Drinking and Groundwater References

The following requirements are not requirements under the administrative code requirements for this general permit but are required by other administrative codes. These requirements are noted in the attached Support Document for the Pit/Trench Dewatering General Permit, R&R Sites and Contaminated Groundwater, and Related Drinking and Groundwater Program Requirements.

Any pit/trench dewatering system [high capacity pump(s)] with the capacity to withdraw greater than 70 gpm must be registered with the Department's Water Use Program and comply with annual reporting requirements. If the dewatering requires a high capacity well, and the total proposed design pump capacity is greater than 70 gpm, the operator must fill out a high capacity well application:

<http://dnr.wi.gov/topic/wells/highcapacity.html>

If the dewatering system is located in the Great Lakes Basin, the total proposed design pump capacity is greater than 70 gpm, and you will actually withdraw an average of 100,000 gallons per day in any 30-day period, a Water Use General Permit is needed in order to withdraw water. For more information regarding Water Use registration and Water Use permits contact (608)-266-2299 or visit the website: <http://dnr.wi.gov/topic/wateruse/>

C. ADDITIONAL REQUIREMENTS FOR GROUNDWATER DISCHARGES

A discharge to groundwaters in Wisconsin includes discharges from groundwater dewatering wells and wastewater infiltration or surface water accumulations in pits, trenches and ponds that may impact water beneath the ground surface.

Table 1, From Permit Part 3.1

Limitations for Groundwater Discharges		Monitoring Requirements	
Parameter	Daily ^(a) Maximum	Sample ^(b) Frequency	Sample ^(c,d) Type
Flow (Total Gallons Per Day)	-	Daily	Estimate
Oil and Grease See 3.5	15 mg/l	Annually, or as specified in 3.2 & 3.3	Grab
<p>(a) Daily maximum effluent limitation is to be compared with each analysis for that day. Compliance is achieved when the result of each analysis is less than the maximum daily effluent limitation. If multiple samples are collected, all the test results shall be reported as separate values.</p> <p>(b) Quarterly sample frequency means performing the associated monitoring at least once during each of the four calendar quarters (Jan.-March, April-June, July-Sept. and Oct.-Dec.). If there is no discharge during a quarter, the permittee shall enter a zero flow for that quarter on the annual discharge monitoring report.</p> <p>(c) Flow estimate means a reasonable approximation of the average daily flow of process wastewater to groundwater based on amounts of makeup water added to a pond, estimates of pond seepage based on hydraulic conductivity and head, meter measurements of discharge to a seepage area, any other method specified in s. NR 218.05(1), Wis. Adm. Code. Seepage flow estimates need not include storm water that falls within the boundaries of or diffusely enters a pit or infiltration area.</p> <p>(d) A grab sample means a single sample taken at one moment of time or a combination of several smaller samples of equal volume taken in less than a two-minute period.</p>			

The following abbreviations are typically used when referring to the concentration of a substance in a discharge:

mg/l or mg/L = milligrams per liter ~ parts per million

ug/l or ug/L = micrograms per liter ~ parts per billion

Flow

An estimate of the average daily flow performed at least quarterly will be sufficient to assure that the facility is aware of the loading to the seepage area. An estimate means a reasonable approximation of flow based on any of the following: (a) water balance, (b) an uncalibrated weir, (c) calculations from the velocity and cross section of the discharge, (d) intake water meter readings where the intake, or a specific portion of it, is discharged, (e) discharge water meter readings, and (f) any of the more complex methods listed in section NR 218.05(1), Wis. Adm. Code. The Department may approve additional methods for estimating flow.

Oil and Grease

The oil and grease daily maximum effluent limit is 15 mg/l or the presence of an oil sheen or oil film. The oil and grease limit is based on the ability of simple oil/water separator equipment to easily remove oil and grease from the discharge to concentrations below 15 mg/l. Oil and grease

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monitoring is required on at least an annual basis using a grab sample unless exempted in writing or specified otherwise in the letter of coverage.

(1) Solids Removal

Occasional removal of solids from seepage areas is necessary to insure that these areas can continue to absorb wastewater. Solids in wastewater can cover soils and clog spaces between soil particles, resulting in decreased seepage capacity.

(2) Sample Frequency

Since it is likely that discharges covered under this permit may not extend over long periods of time, include permit provision that will allow the Department the flexibility of specifying a daily, weekly, or monthly sample frequency in the cover letter accompanying this permit, for flow and oil and grease. The default sample frequency of quarterly may not adequately capture a representative portion of the discharge for short duration discharges. The Department will evaluate a number of factors outlined in the permit to determine if a modified sampling frequency for the parameters is needed.

The sample frequency for flow and oil and grease shall be annually as described in Table 1 above, unless the Department specifies the following frequency:

- (a) One time per day on two different days during the first five days of discharge.
- (b) One time per week during the second through fifth calendar week of discharge.
- (c) One time per month after the fifth week for the remaining duration of the project.

Reporting of results shall be as specified in the letter of coverage or reporting form, and at a minimum, shall be by January 15th of the following year.

The Department shall evaluate factors such as the frequency of the discharge, volume of the discharge, duration of the discharge and permit compliance to determine if a sample frequency of daily, weekly, monthly or annually is more appropriate.

The following wording was present in the previous permit, WI 0049344-2, and retained here as guidance for establishing monitoring requirements: Oil & grease shall be monitored annually unless determined not needed, see below, or determined otherwise, see above, except that: (1) the oil & grease monitoring frequency shall be once each quarter for 4 calendar quarters beginning the quarter following receipt of any sample result showing an oil & grease discharge above 15 mg/L, and (2) further annual monitoring is not required if the first annual sample result is less than 7.5 mg/L provided no further evidence of the presence of oil and grease is observed, see below. An increased monitoring frequency is independent of any Department enforcement response to permit noncompliance. More frequent monitoring may be specified in an order or stipulation resulting from enforcement of permit noncompliance. For portable operations, any required monitoring for oil and grease may occur at any site where the unit is located during the specified sampling period. Samples shall be representative of the process wastewater discharge associated with operation of the portable unit.

(3) Removal of Oil and Grease Monitoring

Since there may be circumstances in which oil and grease monitoring is inappropriate or

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unwarranted, the permit contains language that would allow the Department to waive, by letter,

(4) Oil and Grease Compliance

Any discharge to groundwater that contains oil or grease, based on test result(s) or as evident by oil sheen or oil film on the surface of the water within the seepage area, or by an accumulation of oil or grease on the soil surface within the seepage area is prohibited by this permit. Dewatering activities shall be halted or reduced or alternative disposal methods shall be implemented immediately upon identification of the conditions stated in this section. The visible or physical presence of oil and grease shall be reported in a daily log.

D. ADDITIONAL REQUIREMENTS FOR SURFACE WATER DISCHARGES

Surface water discharges groundwater dewatering wells and wastewater infiltration or surface water accumulations in pits, trenches and ponds to creeks, streams, rivers and lakes in Wisconsin.

Table 2, From Permit Part 4.1

GP 0049344-4 Pit Dewatering Factsheet Final 2012 Limitations for Surface Water Discharges		Monitoring Requirements	
Parameter	Daily (a) Maximum	Sample(b) Frequency	Sample(c,d) Type
Flow (Total Gallons Per Day)	-	Daily	Estimate
Flow – number of days of discharge	-	Quarterly	Record # of days with discharge flow in the quarter
Total Suspended Solids See 4.5	40 mg/l	Quarterly, or as specified in Parts 4.2	Grab or 3-Grab Composite
Oil and Grease See 4.6	15 mg/l	Annually, or as specified in Part s 4.2 & 4.3	Grab

(a) daily maximum effluent limitation is to be compared with each analysis for that day. Compliance is achieved when the result of each analysis is less than the maximum daily effluent limitation. If multiple samples are collected, all the test results shall be reported as separate values.

(b) quarterly sample frequency means performing the associated monitoring once during each of the four calendar quarters (Jan.-March, April-June, July-Sept, and Oct.-Dec.). If there is no discharge during a quarter, no sampling is required, and the permittee shall enter a zero flow for that quarter on the annual discharge monitoring report.

(c) an estimate means a reasonable approximation of the average daily flow based on s. NR 218.05(1), Wis. Adm. Code, or any other method approved by the Department.

(d) A grab sample means a single sample taken at one moment of time or a combination of several smaller samples of equal volume taken in less than a two-minute period.

The following abbreviations are typically used when referring to the concentration of a substance in a discharge:

mg/l or mg/L = milligrams per liter ~ parts per million

ug/l or ug/L = micrograms per liter ~ parts per billion

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Flow

An estimate of the average daily flow performed on at least a quarterly basis is required by the permit. An estimate means a reasonable approximation of flow based on any of the following: (a) water balance, (b) an uncalibrated weir, (c) calculations from the velocity and cross section of the discharge, (d) intake water meter readings where the intake, or a specific portion of it, is discharged, (e) discharge water meter readings, and (f) any of the more complex methods listed in section NR 218.05(1), Wis. Adm. Code. The Department may approve additional methods for estimating flow.

Oil and Grease

The oil and grease daily maximum effluent limit is 15 mg/L or the presence of an oil sheen or oil film. The oil and grease limit is based on the ability of simple oil/water separator equipment to easily remove oil and grease from the discharge to concentrations below 15 mg/L. (Note the clarification for the 15 mg/L, oil and grease limit: It is not a water quality based limit as noted above. It is a categorical limit that is found in other technology based codes like NR 290 (eff. 11-1-86). These codes are based on early EPA guidance to the states. In NR 290, 15 mg/L average and 20 mg/l daily max are used. The Pit-Trench GP uses 15 mg/L daily max. The reason for this difference was not researched but this limit goes back a few permit terms in this GP and is used in other GPs. It appears reasonable to use 15 mg/L as a daily max because of the nature of the discharge and the limited sampling requirements.) Oil and grease monitoring is required on at least a quarterly basis using a grab sample unless exempted.

Total Suspended Solids (TSS)

The TSS daily maximum effluent limit is 40 mg/l (milligrams per liter). The TSS limit is based on the ability of simple settling equipment to easily remove suspended solids from the discharge to concentrations below 40 mg/l. Water is basically clear at 40 mg/l of TSS. TSS monitoring is required on at least a quarterly basis using a grab sample.

(1) Floating Solids and Foam

This is a Best Professional Judgment (BPJ) condition dating back to the Refuse Act Permit Program and the Corps of Engineer's River and Harbor Act of 1899. This condition is achievable by application of best practicable control technology.

(2) Suspended Solids Treatment

Wastewaters from operations covered by this permit are expected to contain suspended solids that must be removed prior to discharge to surface waters. For most of the operations, permit effluent limits for suspended solids are achievable through the use of simple gravity separation (settling) treatment technology.

(3) Solids Removal

Over time, settling equipment fills up with settled solids, resulting in decreased volume and residence time for wastewater and ultimately, ineffective solids treatment. Solids must be removed upon occasion to insure effective settling occurs and that permit limits are met.

(4) Sample Frequency

Since it is likely that discharges covered under this permit may not extend over long periods of time, a provision has been added that will allow the Department the flexibility of specifying a daily, weekly, or monthly sample frequency in the cover letter accompanying this permit, for flow, oil and grease, and TSS. The default sample frequency of quarterly or annually may not adequately capture a representative portion of the discharge for short duration discharges. The Department will evaluate a number of factors outlined in the permit to determine if a modified sampling frequency for the parameters is needed.

The sample frequency for flow, total suspended solids and oil and grease shall be quarterly or annually as described in Table 2 above, unless the Department specifies the following frequency:

- (a) One time per day on two different days during the first five days of discharge.
- (b) One time per week during the second through fifth calendar week of discharge.
- (c) One time per month after the fifth week for the remaining duration of the project.

The Department shall evaluate factors such as the frequency of the discharge, volume of the discharge, duration of the discharge and permit compliance to determine if a sample frequency of daily, weekly, monthly or annually is more appropriate.

Reporting of results shall be as specified in the letter of coverage or report form, and at a minimum, shall be by January 15th of the following year.

The following wording was present in the previous permit, WI 0049344-2, and retained here as guidance for establishing monitoring requirements: Total suspended solids (TSS) shall be monitored with a grab sample each quarter, except that the TSS monitoring frequency shall be once each month for 12 months beginning the month following receipt of a sample result showing a discharge TSS above 40 mg/L. When monthly sampling is required, a representative composite sample shall be created by combining at least 3 individual grab samples of equal volume, taken at approximately equal intervals over a 3-hour period. This increased monitoring frequency is independent of any Department enforcement response to permit noncompliance. More frequent monitoring or a different sample type may be specified in an order or stipulation resulting from enforcement of permit noncompliance.

The following wording was present in the previous permits, beginning with WI 0049344-2, and retained here as guidance for establishing monitoring requirements: Oil & grease shall be monitored annually unless determined monitoring is not needed, see below, or as determined above, except that: (1) the monitoring frequency shall be once each quarter for 4 calendar quarters beginning the quarter following receipt of any sample result showing an oil & grease discharge above 15 mg/L, and (2) further annual oil & grease monitoring is not required if the first annual sample result is less than 7.5 mg/L provided no further evidence of the presence of oil and grease is observed, see 4.8. An increased monitoring frequency is independent of any Department enforcement response to permit noncompliance. More frequent monitoring may be specified in an order or stipulation resulting from enforcement of permit noncompliance.

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(5) Suspended Solids Compliance

The discharge shall not exceed a daily maximum effluent limitation for total suspended solids of 40 mg/L. Daily maximum effluent limitation means the limitation placed on each effluent characteristic which is to be compared with each single daily analysis. Compliance is achieved when the result of each analysis is equal to or less than the maximum daily effluent limitation.

(6) Removal of Oil and Grease Monitoring

Since there may be circumstances in which oil and grease monitoring is inappropriate or unwarranted, the permit contains language that would allow the Department to waive, by letter, oil and grease monitoring.

(7) Oil and Grease Compliance

Any discharge of pit/trench water that contains oil or grease, based on test result(s) or as evident by oil sheen or oil film on the surface of the water within the pit/trench area, or by an accumulation of oil or grease on the soil surface within the seepage area is prohibited by this permit. Dewatering activities shall be halted or reduced or alternative disposal methods shall be implemented immediately upon identification of the conditions stated in this section. The visible or physical presence of oil, and

(8) Discharge to Surface Water from Backfill Settling Operations

This operation is typically done after work underground is completed and consists of water injected and/or applied to pit/trench backfill in an effort to compact the soil. Water allowed to leave the site from this operation and will be allowed to enter surface water directly or indirectly via a storm sewer will be required to meet the surface water discharge limit for Total Suspended Solids as listed in Table 2 of the permit.

(9) Requirements for Discharges to 303(d) Listed Impaired Surface Waters and TMDL allocations

If a facility discharges a pollutant of concern to a 303(d) listed impaired water body or a TMDL water body, the pollutant discharge should be minimized as much as possible as part of an overall state effort to reduce the pollutant loading to the water body. The 303(d) list of Wisconsin impaired water bodies and TMDL water bodies may be identified by contacting the Department or by searching for the 303(d) list or the TMDL water body list on the Department's Internet site.

If you would like to see if the waterbody that you intend to discharge to is on the impaired water bodies list, search using the key word "impaired waters" from the DNR's main webpage, dnr.wi.gov. If you would like to learn if a TMDL was established for a waterbody, search the key word "TMDL" from the DNR's main webpage, dnr.wi.gov. The current link to the 303(d) list is: <http://dnr.wi.gov/org/water/wm/wqs/303d/>, and to the TMDL list is: <http://dnr.wi.gov/org/water/wm/wqs/303d/TMDL.html>. These links are planned to be discontinued during the term of this permit.

For an existing ongoing dewatering operation, the most common pollutant of concern may

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be a total suspended solids (TSS) discharge to a sediment impaired water body. The above Department internet page contains county based maps that show the location of Wisconsin waters impaired by excessive sediment/solids levels.

The permit requires that permittee report annually, and if not done sooner, then by January 15th each calendar year, on discharges of pit/trench dewatering wastewater to a section 303(d) listed impaired water body or to a water body within an approved TMDL watershed. Annual reporting is required in particular for discharges that continue from year to year, since the status of a waterbody may change. If waterbody status changes and/or the following have not been reported on for the year, then the permittee shall report the location, average and total discharge flow, days of discharge, average concentration of pollutant of concern, and total annual load discharge of the pollutant of concern for the past calendar year. The permittee should keep a record of the pollutant control method, amount of pollutant discharge reduction that has been voluntarily achieved. The exact amount of pollutant reduction will be legally established in the State and Federal Approved Total Daily Maximum Load (TMDL) allocation established for the discharge.

Federal Statutes, 40 CFR 122.4, prohibit the issuance of a WPDES permit to a new source or new discharger that will contribute to a violation of a water quality standard in a 303(d) listed water or approved TMDL watershed. Also, an increased discharge of a pollutant of concern that would cause or contribute to a violation of a water quality standard in a 303(d) listed water or approved TMDL watershed is not to be allowed. Since pit/trench dewatering systems are typically low in volume, seasonal, temporary, change locations and are intermittent, the actual impact on total suspended solids and other similar pollutants is variable with time. With one or more discharges being discontinued and another or others starting up, the actual loading to the water way remains within the water quality standards for a 303b water body or within the TMDL baseline allocation for general permits, provided the discharge is in compliance with the general permit.

For a new operation requesting coverage under the pit/trench dewatering general permit, the Department will evaluate and determine if the proposed pollutant discharge would be consistent with the requirements for coverage. Coverage may not be granted in the case where the discharge volume is relatively high, is continuous or not seasonal, is permanent or remains in the same location and these conditions are inconsistent with the 303d objectives or the TMDL requirements. In this case, the discharge may need special approval before the general permit coverage can be granted or an individual permit shall be used.

Respectfully submitted,



Nile A. Ostenso, September 2012

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Attached: Support Document for the Pit/Trench Dewatering General Permit, R&R Sites and Contaminated Groundwater, and Related Drinking and Groundwater Program Requirements.

Support Document for the Pit/Trench Dewatering General Permit, R&R Sites and Contaminated Groundwater, and Related Drinking and Groundwater Program Requirements.

Revised September 2012

Rationale for R& R Support Document:

During the construction period there are numerous requests for the Pit/Trench Dewatering General Permit (GP), permit # WI-0049344-4 (for the program web page see:

<http://dnr.wi.gov/org/water/wm/ww/gpindex/gpinfo.htm> (old) or

<http://devlwww.dnr.state.wi.us/topic/wastewater/GeneralPermits.html>

(new). The Remediation & Redevelopment (R&R) program pointed out that some Pit/Trench GPs were issued for construction adjacent to or on R&R sites. Many possible complications may result including potentially compromising the ongoing or completed recovery work. For the wastewater program, such an occurrence could result in contaminated groundwater being dewatered and the Pit/Trench Dewatering GP would no longer apply.

How can we avoid granting coverage for a Pit/Trench GP when the activity includes contaminated groundwater?

General Procedure:

A partial answer is the externally available R&R website that shows all active and closed R&R sites: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=brrts2>.

To obtain R&R Map: Go to this website: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=brrts2>. First click on the Themes tab. The automatic setting is for the Contaminated and Cleaned Up theme. Open Sites and Closed Sites are checked automatically (all sites are wanted). Click on the blue Find Location tab. Click on County, select the county you are discharging in, and click on Go. You can use the Zoom In tool to refine your search. Or you can click on Find Location again to get a more specific area in the county, such as township. After locating the general area (approx. 2000 ft radius) you are discharging in, click on the blue Print tab. Click on OK. Click on Open Map (on left above center). Then print as normal. Note that information about sites can be obtained from the database. Highlight the Identify/Site Info button above the R&R map and to right. Then click on site symbol and site information will appear in left column.

By using the mapping tools, property boundaries, project area, pit location, discharge location and other site features can be noted on the map and labeled before printing. For example under blue layer tab, the topography can be added by selecting Imagery & Basemaps, and then Digital Topographic Maps. It is possible to satisfy the site map and R&R site map requirements with this mapping site and tools. Also note that the map is linked to a database with information for each R&R site. Clicking on a map site brings up the database and some information contamination will be available.

The website is very similar in look and feel to the external watershed viewer: Surface Water Data Viewer: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=SurfaceWaterViewer>.

The R&R link is now available (effective July 31, 2009) through our external program viewer (SWDV) by clicking on the above SurfaceWaterViewer or Watershed Viewer link. Along the bottom of the screen in the blue margin the link called "Remediation and Redevelopment Sites." Click on this title and it will open the R&R website. Note that the R&R and Watershed mapping systems are separate systems with very similar tools and features. But these two systems cannot be readily joined because the database features are complex. The R&R sites map page must be used to have a map showing the R&R sites and access to the R&R database.

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A simplifying step has been added. If the site is first located on the watershed viewer (SWDV) and then the link is launched with a single click to the R&R site as noted above, the R&R page will open to the same map location and scale with all the R&R sites shown.

Note that the Department's role in granting coverage for the GP will not change by this added step. It is the permittee who is responsible for knowing if the groundwater is contaminated. For an R&R site, the owner or the responsible party is responsible for activities taking place on the property. When the site is closed, this responsibility is stated in the closure. Adjoining property owners and/or future owners may not be aware of these details and should check R&R Sites Map. The purpose of the R&R, GIS website and database is to help facilitate access to the information. Our role is to inform the interested permittee of the readily available information on potential groundwater contamination at a proposed site. We check the Request for Coverage form provided by the applicant for accuracy and conformance with the requirements.

At this point, it is within the current Pit-Trench Dewatering General Permit requirements to exclude coverage for sites with contaminated groundwater. It is through the Request for Coverage form and review process that a determination is made on granting coverage. This process asks the applicant to state whether the groundwater is contaminated or not. The form now makes specific reference to R&R sites relative to the proposed project area. The Fact Sheet also includes language to explain what information is to be submitted. This notice directs the applicant or prospective permit holder to go to the external R&R website: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=brrts2> where a printout of an R&R website map covering the proposed dewatering area can be obtained. This map is to be included with the GP permit application or Request for Coverage submittal.

Caution, Checking the R&R website and not finding a cleanup site does not mean that the groundwater is not contaminated. One must be familiar with the area and on guard for other indicators such as old gas stations, storage tanks, dump sites and other commercial/industrial land uses.

Rationale for Referencing Drinking and Groundwater Program Requirements:

The Pit/Trench Dewatering GP covers only the discharge from such an activity. There are also requirements covering the withdrawal of water as administered by the Drinking and Groundwater Program (DG). This notation does not include or make reference to any other approvals or permits that may also be required for the project. It is the responsibility of the permittee to obtain all the applicable approvals and permits.

These references are a reminder of the requirements for high capacity well withdrawal approvals (see: s. NR 812.09, Wis. Adm. Code), for Water Use Registration and Reporting (see: ch. NR 856), and for Water Use Permitting (see: ch. NR 860, Wis. Adm. Code). When pit-trench dewatering exceeds a 70m gpm design capacity, a plan and specs approval, withdrawal reporting, and a Water Use general permit may be required by the Drinking and Groundwater Program.

1. A dewatering activity is defined as a high capacity well when the total proposed design pump capacity is greater than 70 gpm. In this case, the operator must be registered with the Department's Water Use Program and comply with annual reporting requirements and may also need to submit a high capacity well application, see: <http://dnr.wi.gov/topic/wells/highcapacity.html> for more details.

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2. If the dewatering system is located in the Great Lakes Basin, the total proposed design pump capacity is greater than 70 gpm, and the activity will actually withdraw an average of 100,000 gallons per day in any 30-day period, a Water Use General Permit is needed in order to withdraw water. For more information regarding Water Use registration and Water Use permits contact (608)-266-2299) or visit the website: <http://dnr.wi.gov/topic/wateruse/>.

Practical Points Primarily for DNR Staff:

1. If a high cap well approval is needed for the dewatering project, total proposed design pump capacity greater than 70 gpm, a careful review is conducted by the Drinking Water and Groundwater (DG) program of the R&R issues if any, before they act on the proposal. In such case, Waters Quality staff should respond to other parts of the request as appropriate and wait for see the outcome of the DG review before completing the GP review. See above for contact info.
2. Otherwise, if there is a R&R site close by, check the R&R web link for more details and consult the R&R region person before proceeding (the R&R program website <http://dnr.wi.gov/org/aw/rr/>). Other possible R&R contacts are not listed in this document since each region is different and more specific procedures would need to be developed. Note, “close by“ is a relative term requiring judgment based on direction of groundwater flow, soil types and nature and size of the contaminant source. If a general distance for “close by“ is needed, a minimum 2,000 feet from the property boundary is suggested.
3. If you are suspect an issue because of these various factors, have the applicant dig an observation trench to groundwater for a visual inspection, if possible, and have the applicant take a water sample(s) for testing if still in doubt. Note that a closed or inactive R&R site suggests that the site was cleaned up: however, many sites are closed with some level of residual contamination. Therefore, one should not assume that this means there will be no groundwater issues and it does not suggest that the proposed project can disrupt the existing clean-up site unless permission/approval is first obtained. A special note of caution, many of the R&R sites include petroleum products that are very difficult to remove or cleanup entirely. This could result in oil sheen or film forming on the water surface. Oil sheens or films are not allowed. Oil and grease would be allowed in the discharge if below the limit. See point #6 below.
4. Beware of a well installed with the screened interval below the contaminant level and testing relatively clean groundwater. Pit-trench dewatering intersects the top of the shallow groundwater system and the sampling needs to focus on this zone.
5. While the GP purpose is intended to streamline the permitting process, there can be no end to problems if permit coverage is granted when the project does not qualify. Public complaints can lead to bad publicity, the project may need to be forcibly closed and enforcement follow-up may be needed. Note it is the applicant’s responsibility to show the Pit/Trench Dewatering GP is applicable. For construction sites with contaminated groundwater, the Contaminated Groundwater from Remedial Action Operations GP (WI-0046566) may be used provided appropriate treatment is provided (see: <http://devlwww.dnr.state.wi.us/topic/wastewater/GeneralPermits.html>). This permit has a protocol for initial groundwater quality testing. Based on the contaminants,

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treatment may need to be employed. And during discharge, the GP has discharge limits and monitoring requirements.

6. If neither the Pit-Trench Dewatering GP nor the Contaminated Groundwater from Remedial Action Operations GP coverage can be granted, an individual permit may be needed.
7. The prospective permittee should also be cautioned that contaminated soils need to be properly handled and disposed of: <http://dnr.wi.gov/staffdir/dynamic/solidwaste.asp> .