

## WPDES PERMIT

# STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

## GENERAL PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 283, Wis. Stats., any facility discharging

#### CONTAMINATED GROUNDWATER FROM REMEDIAL ACTION OPERATIONS

located in the State of Wisconsin and meeting the applicability criteria listed in this General Permit, is permitted to discharge these wastewaters directly to surface waters of the state and/or indirectly to groundwaters of the state in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

State of Wisconsin Department of Natural Resources For the Secretary

By

Sharon L. Gayan, MPA
Director, Bureau of Water Quality

Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - July 01, 2018

EXPIRATION DATE - June 30, 2023

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## 1 Applicability Criteria

## 1.1 Discharges Covered

The general permit is applicable to any of the following discharges to the waters of the state:

- Discharges of treated wastewater from groundwater remediation projects;
- Discharges of a substance or remedial material through an infiltration or injection system designed to enhance the remediation of in-situ contaminants in soil or groundwater;
- Discharges of cleaning or decontamination wastewaters from the cleaning of treatment equipment following a groundwater remediation project;
- Discharges of treated wastewater from the dewatering of construction trenches or pits where contaminated groundwater is encountered or intercepted;
- Landspreading or spray irrigation of any agricultural chemical contaminated wastewater or any other pesticide or fertilizer containing wastewater that cannot be used as a product and that has no detrimental effect on soils, vegetation or groundwater to department approved sites; and

**Note:** Injection of a substance or a remedial material through a well or drillhole solely for the purpose of waste disposal is prohibited.

## 1.2 Discharges Not Covered

This general permit is not applicable to any of the following discharges to the waters of the state:

- Landspreading or spray irrigation of water contaminated with agricultural chemicals generated by a remedial action at a discharge site that is managed as a pesticide or fertilizer product and subsequently used consistent with pesticide product label directions, or according to normal nutrient management practices for fertilizer products.
- Discharges containing municipal, domestic, or process wastewater;
- Discharges to a publicly-owned treatment works (POTW);
- Discharges containing water treatment additives where the additive use is not approved in writing by the department;
- Discharges to waters classified as a public water supply in ch. NR 104, Wis. Adm. Code;
- Discharges to a wetland where the department has determined that the discharge of pollutants will not meet the wetland protection requirements of ch. NR 103, Wis. Adm. Code;
- Discharges directly to an outstanding resource water as defined in s. NR 102.10, Wis. Adm. Code, or discharges that would lower the water quality of downstream outstanding resource waters;
- Discharges directly to an exceptional resource water as defined in s. NR 102.11, Wis. Adm. Code, or discharges that would lower the water quality of downstream exceptional water resources:
- Discharges that result in the significant lowering of water quality in fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code;

- Increased discharges to fish and aquatic life waters identified in s. NR 102.13, Wis. Adm. Code, Great Lakes system waters, and variance waters identified within ss. NR 104.05 through 104.10, Wis. Adm. Code;
- Discharges that will adversely impact endangered and threatened species, including causing an incidental take, unless the department determines that the discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code;
- Discharges that will adversely affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the department determines that the discharges will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats;
- Discharges from and/or to properties within tribal lands. The Tribe or United Stated Environmental Protection Agency (EPA) regulates discharges from or on tribal lands (land owned by or held in trust for the tribes and land within recognized reservation boundaries);
- Discharges containing substances that will have a reasonable potential to exceed water quality standards pursuant to chs. NR 102, NR 104, NR 105, NR 106, NR 207, and NR 217 Wis. Adm. Code, or other applicable surface water quality standards; and
- Discharges containing substances that will have a reasonable potential to exceed groundwater quality standards in ch. NR 140, Wis. Adm. Code.

## 2 Obtaining Permit Coverage

An applicant shall comply with the following requirements to obtain coverage and authorization to discharge to the waters of the state under this general permit.

#### 2.1 Submittal of a Notice of Intent

The applicant must submit a complete notice of intent (NOI) under this general permit to the department at least thirty (30) business days before the expected start date of discharge. The NOI can be found at <a href="http://dnr.wi.gov/topic/wastewater/GeneralPermits.html">http://dnr.wi.gov/topic/wastewater/GeneralPermits.html</a> and Appendix B to this general permit. NOIs must be submitted electronically, if made available by the department, or mailed to the attention of "Wastewater General Permits" at the headquarters office of the region in which the project is located unless otherwise indicated on the department's webpage. A list of the department general permit reviewers for each region with contact information can be found at <a href="http://dnr.wi.gov/topic/wastewater/GeneralPermits.html">http://dnr.wi.gov/topic/wastewater/GeneralPermits.html</a>. Please scroll to the "How to Apply" section and click the department region that you are located.

**Note:** The department is in the process of developing and requiring electronic submissions of NOIs to discharge under this general permit. Once the NOIs are online, paper copies will be no longer accepted. The department will post this update on our general permit webpage

### 2.2 Incomplete NOI

The department may require an applicant to submit additional information if the department determines a NOI is incomplete. The applicant shall submit the requested information.

## 2.3 Granting of Coverage

All applicants meeting the applicability requirements of this general permit must receive a letter from the department granting coverage under this general permit prior to commencing discharge to the waters of the state. If the applicant has not received a coverage letter from the department granting coverage under this general permit, an applicant may not discharge to the waters of the state until coverage under this general permit is granted by the department.

**Note:** If the department notifies an applicant that a discharge is ineligible for coverage under this general permit but still requires WPDES permit coverage, the applicant shall apply for and obtain coverage under an individual WPDES permit (or alternative general permit, if available) prior to discharging to the waters of the state. The necessary steps to apply for coverage under an individual permit can be found at the department website:

http://dnr.wi.gov/topic/wastewater/PermitApplications.html.

## 3 Discharge Management Plan

The permittee shall comply with the following discharge management plan requirements.

## 3.1 Operate Consistent with an Approved Discharge Management Plan

Permittees shall develop a discharge management plan for their discharge(s) to the waters of the state. The permittee shall operate consistent with a department approved discharge management plan. A copy of the discharge management plan shall be retained by the permittee and this plan shall be made available upon department inspection or submitted to the department upon request.

## 3.2 Submittal of the Discharge Management Plan

Applicants shall submit a complete discharge management plan with the submittal of the NOI. The department coverage letter will explicitly indicate approval of the discharge management plan. Applicants may use information from their remedial action design report as prepared in accordance with ch. NR 724, Wis. Adm. Code in their discharge management plan. Additionally, if prepared with the remedial action design report, applicants may use information from their operation and maintenance plan as prepared in accordance with s. NR 724.13(3), Wis. Adm. Code. Permittees shall notify the department when the discharge management plan is amended to determine if the amendment requires department approval.

### 3.3 Discharge Management Plan Content

The discharge management plan shall include at least the following information:

- 1. A detailed site map. The site map shall identify the discharge location, general land uses, underground storage tanks and pipelines, groundwater monitoring and recovery wells, contaminant plume definition and zone of influence, other known spills in the area, septic tanks and drain fields, separation distances to potable water supply wells and residences, and other pertinent information.
- 2. A general description of the suspected sources of groundwater pollution at the site.
- 3. Final plans and specifications for the proposed treatment system (if necessary). The plans and specifications shall include a professional engineer stamp, detailed drawings of the proposed treatment system design, including general component arrangements, equipment layout, process flow diagram, piping and instrumentation diagrams, cross sections, outfall structure, sampling locations and instrumentation locations. If treatment is necessary to meet limits in this permit, the applicant must demonstrate that the level of treatment shall be equivalent to Best Available Treatment Economically Achievable as defined in Section 301(b)(2) of the Clean Water Act and s. 283.03(2)(b), Wis. Stats.

**Note:** Final plans and specifications for groundwater treatment systems are subject to the department's approval pursuant to s. 281.41, Wis. Stats. and ch. NR 108, Wis. Adm. Code. The plans and specifications shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921.

- 4. General description of planned operation and maintenance. The operation and maintenance shall include a description of the normal operation and maintenance with frequency of each task, contingency plans, sampling locations, routine monitoring and analysis, visual inspection procedures, record-keeping and reporting.
- 5. A listing of all required local, state and federal permits, licenses and approvals to construct and implement the remedial or interim action. Please include the s. NR 140.28(5), Wis. Adm.

- Code, temporary exemption request and approval for the injection or infiltration of a substance or remedial material (if necessary).
- 6. Description of erosion and sediment control practices.
- 7. A summary of analytical results detected at the site for the substances listed in Table 1 of Section 4.2.1.1 or Table 2 of Section 5.3. The summary shall include results from any volatile organic compounds and polycyclic aromatic hydrocarbons compounds scans.
- 8. A summary of the substance or remedial material to be used for the purpose of restoring contaminated soil or groundwater (if necessary). Please include the material safety sheets for each substance or material and the sampling location of the discharge.
- 9. Monitoring exemption request for sampling for certain contaminants regulated by this permit. The applicant must demonstrate that the contaminants will not be present in the effluent discharge. The initial sample analysis results must not exceed 20% of any permit discharge limitations and certify that there is no abrupt chance that a permit limit will be exceeded through the treatment system.
- 10. Alternative sampling location request for monitoring groundwater discharges at a new or existing groundwater monitoring system downgradient of infiltration system to demonstrate compliance with this permit. Applicants must demonstrate that the groundwater monitoring system is downgradient of infiltration and that a representative sample of the discharge will be collected.
- 11. Applicants must demonstrate that there is no reasonable potential to exceed water quality standards listed in to chs. NR 102, NR 104, NR 105, NR 106, NR 207, and NR 217 Wis. Adm. Code, for pollutants not directly limited by this permit, or that there is no reasonable potential to exceed groundwater quality standards listed in Ch. NR 140, Wis. Adm. Code, for pollutants not directly limited by this permit.

## **4 Surface Water Discharge Requirements**

The requirements of this section only apply to surface water discharges. Surface water discharges means any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to surface waters within the state of Wisconsin.

## 4.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

	Sampling Point Designation				
Sampling Point	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)				
Number					
001	Discharges from the remediation or treatment of groundwaters contaminated with petroleum products and/or volatile organic compounds shall be sampled after treatment (if necessary) and prior to discharge to surface water via Outfall 001. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.				

## 4.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations. Monitoring is only required when wastewater being discharged to surface waters.

### 4.2.1 Sampling Point (Outfall) 001 - Surface Water Discharge

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Monitoring Requirements and Effluent Limitations						
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes	
Flow Rate		gpd	Daily	Estimated	See Section 4.2.1.2	
рН	Daily Min	6.0 su	Weekly	Grab	See Section 4.2.1.2	
pН	Daily Max	9.0 su	Weekly	Grab	See Section 4.2.1.2	
Oil & Grease (Hexane)	Daily Max	10 mg/L	Weekly	Grab	See Section 4.2.1.2	
Suspended Solids, Total	Daily Max	40 mg/L	Weekly	Grab	See Sections 4.2.1.2 and 4.2.1.3.	
Chorine, Total Residual	Daily Max	19 μg/L	Weekly	Grab	See Sections 4.2.1.2 and 4.2.1.4	
Other Pollutants at Concentration of Concern	TBD	TBD	Weekly	TBD	Refer to Sections 4.2.1.1 and 4.2.1.2	

#### 4.2.1.1 Other Pollutants at Concentration of Concern

The permittee is required to monitor for those pollutants at a concentration of 1/5 of the effluent limit in Table 1 as determined from the analysis of contaminants at the site submitted with the discharge management plan. The effluent limitations, limit type, and sample type for the detected substances are listed in Table 1.

**Table 1. Effluent Limitations for Surface Water Discharges** 

Parameter	Limit Type	Limit and Units	Sample Type	Note
Benzene	Monthly Avg	50 μg/L	Grab	
BETX, Total	Monthly Avg	750 μg/L	Grab	

Parameter	Limit Type	Limit and Units	Sample Type	Note
PAHs	Monthly Avg	0.1 μg/L	Grab	See Section 4.2.1.1.2 and Appendix C for calculation
Benzo(a)pryrene	Monthly Avg	0.1 μg/L	Grab	See Section 4.2.1.1.3
Naphthalene	Monthly Avg	70 μg/L	Grab	See Section 4.2.1.1.4
Lead, Total Recoverable	Daily Max	See Permit Note	Grab Comp	See Section 4.2.1.1.1
Lead, Total Recoverable	Weekly Avg	See Permit Note	Grab Comp	See Section 4.2.1.1.1
Bromoform	Monthly Avg	120 μg/L	Grab	
Carbon Tetrachloride	Monthly Avg	150 μg/L	Grab	
Chloroform	Monthly Avg	120 μg/L	Grab	
Dichlorobromomethane	Monthly Avg	120 μg/L	Grab	
1,2-Dichloroethane	Monthly Avg	180 μg/L	Grab	
1,1-Dichloroethylene	Monthly Avg	50 μg/L	Grab	
Methyl Bromide	Monthly Avg	120 μg/L	Grab	
Methyl Chloride	Monthly Avg	120 μg/L	Grab	
1,1,2,2-Tetrachloroethane	Monthly Avg	50 μg/L	Grab	
Tetrachloroethylene	Monthly Avg	50 μg/L	Grab	
1,1,2-Trichloroethane	Monthly Avg	50 μg/L	Grab	
1,1,1-Trichloroethane	Monthly Avg	50 μg/L	Grab	
Trichloroethylene	Monthly Avg	50 μg/L	Grab	
Vinyl Chloride	Monthly Avg	10 μg/L	Grab	
Hardness, Total as CaCO <sub>3</sub>	-	mg/L	Grab Comp	See Section 4.2.1.1.1

#### 4.2.1.1.1 Daily Maximum and Weekly Average Lead Limits

The permittee shall determine the daily maximum and weekly average limitations for total recoverable lead as follows:

**Daily Max Limit (\mug/L)** = e ^ (0.9662 x ln(effluent hardness in mg/L as CaCO<sub>3</sub>) + 0.2226)

Weekly Avg Limit ( $\mu$ g/L) = e ^ (0.9662 x ln(receiving water hardness in mg/L as CaCO<sub>3</sub>) - 1.1171)

Sampling for effluent hardness is only required when total recoverable lead is required. Receiving water hardness values are shown in Appendix D.

#### 4.2.1.1.2 PAH Group of Ten

Permittees shall use EPA test method 610 or other EPA approved method to test for the PAH compounds. Permittees shall demonstrate compliance with the monthly average PAH group limit by reporting no detection of any of these PAH compounds, or by reporting the sum of the PAH group detected amounts equal to or less than 0.1  $\mu$ g/L. See Appendix C for the calculation of the concentration of the PAH group of 10 compounds.

#### 4.2.1.1.3 Benzo(a)pyrene

Permittees shall use EPA test method 610 or other EPA approved method to test for benzo(a)pyrene. Permittees shall demonstrate compliance with monthly average benzo(a)pyrene limit by reporting no detection of benzo(a)pyrene, or by reporting a detected amount equal to or less than 0.1  $\mu$ g/L.

#### 4.2.1.1.4 Naphthalene

Permittees shall use EPA test method 610 or other EPA approved method to test for naphthalene. Permittees shall demonstrate compliance with monthly average naphthalene limit by reporting no detection of naphthalene, or by reporting a detected amount equal to or less than 70  $\mu$ g/L.

#### 4.2.1.2 Sampling Frequency During Operation

The permittee shall record the total daily volume of wastewater discharged under this permit on each day there is a discharge. For all other parameters, in the first 4 weeks of discharge, the permittee shall sample the discharge weekly under Outfall 001. If the discharge continues after the first 4 weeks, the permittee shall sample the discharge monthly. If the discharge continues beyond one year since the start date and the monitoring results have not exceeded any permit discharge limitations the department may approve in writing, a quarterly monitoring frequency.

A monthly or quarterly sampling frequency only applies if data indicates substantial compliance with effluent limits. If the sampling frequency is monthly or quarterly and an exceedance occurs, a weekly monitoring frequency must resume until substantial compliance is demonstrated for eight consecutive weeks. The department may require daily sampling for some parameters upon start-up of a treatment system, or when an exceedance occurs.

#### 4.2.1.3 Total Suspended Solids (TSS) Monitoring

The total suspended solids monitoring and limitations provided in Section 4.2.1 are only required at sites where there is a discharge of equipment cleaning wastewaters, or when groundwater is pumped from construction pits or trenches.

#### 4.2.1.3.1 Solids Removal

For wastewaters that may need to be treated for suspended solids prior to discharge to surface waters, the permittee shall remove captured solids from solids separation equipment or facilities as needed to maintain treatment unit hydraulic capacity and prevent carry-over of solids

#### 4.2.1.4 Total Residual Chlorine Monitoring

Chlorine may be used to control the growth of micro-organisms in the treatment system or used to decontaminate the treatment system after completion of the remediation project. The department recommends a chlorination system that cleans and chlorinates the treatment unit when it is out of service, and then captures the cleaning wastewater for acceptable offsite disposal, such as a sanitary sewer. The total residual chlorine monitoring and limitation provided in Section 4.2.1 are only required at sites where there is a discharge of equipment cleaning wastewaters to surface water.

#### 4.2.1.4.1 Total Residual Chlorine Reporting and Compliance

Test methods for total residual chlorine, approved in ch. NR 219 - Table B, Wis. Adm. Code, normally achieve a limit of detection of about 20 to 50 micrograms per liter and a limit of quantitation of about 100 micrograms per liter. When dechlorination is in use, reporting of test results and compliance with effluent limitations for chlorine residual shall be as follows:

• Sample results which show no detectable levels are in compliance with the limit. These test results shall be reported on Wastewater Discharge Monitoring Report Forms as " $< 100 \ \mu g/L$ ". (Note: 0.1 mg/L converts to 100  $\mu g/L$ )

- Samples showing detectable traces of chlorine are in compliance if measured at less than 100  $\mu g/L$ , unless there is a consistent pattern of detectable values in this range. These values shall also be reported on Wastewater Discharge Monitoring Report Forms as "<100  $\mu g/L$ ." The facility operating staff shall record actual readings on logs maintained at the plant, shall take action to determine the reliability of detected results (such as re-sampling and/or calculating dosages), and shall adjust the chemical feed system if necessary to reduce the chances of detects.
- Samples showing detectable levels greater than 100  $\mu$ g/L shall be considered as exceedances, and shall be reported as measured.
- To calculate average or mass discharge values, a "0" (zero) may be substituted for any test result less than 100  $\mu$ g/L. Calculated values shall then be compared directly to the average or mass limitations to determine compliance.

## 4.3 Impaired Waters & TMDL Requirements for Surface Water Discharges

#### 4.3.1 Report Discharge to an Impaired Surface Water

Permittees shall report, on the annual discharge monitoring report, if the wastewater has a detectable pollutant of concern (as identified per required monitoring) that discharges to an impaired surface water or a surface water with a State and EPA approved Total Daily Maximum Load (TMDL) allocation. The section 303(d) list of Wisconsin impaired surface water bodies may be obtained by contacting the department or by searching for the section 303(d) list on the department's Internet site. The department updates the section 303(d) list approximately every two years. The updated list is effective upon approval by EPA. The current link to the section 303(d) list is: <a href="http://dnr.wi.gov/topic/impairedwaters/2016IR\_IWList.html">http://dnr.wi.gov/topic/impairedwaters/2016IR\_IWList.html</a>. State and Federal Approved TMDL list on the department Internet site. The current link to identify the list of State and Federal Approved Final TMDLs is: <a href="http://dnr.wi.gov/topic/TMDLs/index.html">http://dnr.wi.gov/topic/TMDLs/index.html</a>.

## 4.3.2 TMDL Compliance

Permittees that discharge a pollutant of concern that is subject to an approved TMDL shall comply with the requirements of the State and Federally approved TMDL allocation that is in effect on the effective date of this general permit. Existing pollutant discharges covered under this general permit are expected to be consistent with the baseline wasteload allocation granted to Wisconsin general permit discharges in all State and EPA approved TMDLs in effect on the effective date of this general permit.

## 4.3.3 New or Increased Pollutant Discharge to a 303(d) Listed Impaired Surface Water

Applicants or permittees must notify the department when they propose a new or increased discharge of a pollutant of concern to an impaired water body in accordance with Section 8.1.6. The permittee may not establish a new or increased discharge of a pollutant of concern to an impaired water body until the department has determined that the new or increased discharge does not contribute to the receiving water impairment, or the discharge is consistent with a State and Federal approved TMDL wasteload allocation for the impaired water body. Any new or increased pollutant of concern discharge to an impaired surface water with a State and Federal approved TMDL authorized under this general permit shall be consistent with the baseline wasteload allocation for general permittees within the basin.

### 4.4 Water Treatment Additives for Surface Water Discharges

Permittees shall not place water treatment additives in any discharge unless the water treatment additive use is approved, in writing, by the department. An additive review is necessary for substances that may enter surface water without receiving wastewater treatment or substances that are used in a treatment process but are not expected to be removed by wastewater treatment and may contribute to effluent toxicity. In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the NOI, the permittee shall submit a request and receive written approval from the department prior to initiating such changes. The permittee shall maintain records of the monthly water treatment additive use including the additive name, manufacturer, and daily maximum amount used.

For each water treatment additive used, the permittee shall submit a copy of the Additive Review Worksheet to the department. Examples of water treatment additives are biocides such as microbicides, fungicides, molluscicdes, etc. and water quality conditioners such as scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, etc. The Additive Review Worksheet is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an Additive Review Worksheet. For more information on the additive review process, see the guidance document titled Water Quality Review Procedures for Additives.

The permittee shall not discharge any water treatment additive that will have a reasonable potential to exceed water quality standards pursuant to chs. NR 102, NR 104, NR 105, NR 106, NR 207 or NR 217, Wis. Adm. Code, for surface water discharges. If the discharge contains these types of water treatment additives, the permittee shall apply for an individual permit prior to discharge to surface waters.

#### 4.5 Surface Water Uses and Criteria

In accordance with s. NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

- a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
- b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
- c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
- d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

## **5 Groundwater Discharge Requirements**

The requirements of this section only apply to groundwater discharges. Groundwater discharge means any wastewater (treated or untreated) that is allowed to infiltrate or seep into the soil from a permeable surface that may impact groundwater quality.

## 5.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

	Sampling Point Designation				
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)				
002	Discharges from the remediation or treatment of groundwaters contaminated with petroleum products and/or volatile organic compounds shall be sampled after treatment and prior to discharge to groundwater via Outfall 002. The samples taken shall be representative of the discharge that consists solely of the treated effluent before mixing with any other water.				
003	Infiltration or Injection Water: Infiltration or injection of a substance or remedial material for the purpose of restoring contaminated soil or groundwater. Samples representative of the discharge shall be collected following treatment and prior to discharge to the infiltration system via Outfall 003. A remedial action project that has been granted a temporary exemption by the department in accordance s. NR 140.28(5), Wis. Adm. Code, exempts the permittee from monitoring and reporting under this section.				

## 5.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations. Monitoring is only required when wastewater being discharged to groundwater.

### 5.2.1 Sampling Point (Outfall) 002 - Groundwater Discharge

Monitoring Requirements and Effluent Limitations						
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes	
Flow Rate		gpd	Daily	Estimated	See Section 5.4	
Oil & Grease (Hexane)	Daily Max	10 mg/L	Weekly	Grab	See Sections 5.4	
Other Pollutants at Concentration of Concern	TBD	TBD	Weekly	Grab	Refer to Sections 5.3 and 5.4	

#### 5.2.2 Sampling Point (Outfall) 003 – Infiltration or Injection Water

Permittees with discharges of infiltration or injection water to groundwater shall comply with the following conditions:

#### 5.2.2.1 Projects with No Temporary Exemption

When a temporary exemption has not been granted by the department for an in-situ remediation project in accordance with s. NR 140.28(5) Wis. Adm. Code, the permittee shall monitor the discharge for all of the compounds listed in Sections 5.2.1 and 5.3 unless the department approves a discharge management plan with a list of detected substances for monitoring as specified in Section 4.

#### 5.2.2.2 Projects Granted a Temporary Exemption

When the department has been granted a temporary exemption for a remedial action project in accordance s. NR 140.28(5), Wis. Adm. Code, the permittee is exempt from monitoring and reporting under this permit and shall follow the terms and conditions of the remedial action plan approval under ch. NR 724, Wis. Adm. Code, and the temporary exemption granted under s. NR 140.28(5), Wis. Adm. Code.

#### 5.3 Other Pollutants at Concentration of Concern

The permittee is required to monitor for those pollutants at a concentration of 1/5 of the effluent limit in Table 2 as determined from the analysis of contaminants at the site submitted with the discharge management plan. The effluent limitations, limit type, and sample type for the detected substances are listed in Table 2.

**Table 2. Effluent Limitations for Groundwater Discharges** 

Parameter	Limit Type	Limit and Units	Note
Acetone	Monthly Avg	200 μg/L	
Benzene	Monthly Avg	0.5 μg/L	
Benzo(a)pryrene	Monthly Avg	0.02 μg/L	See Section 5.6
Benzo(a)anthracene	-	μg/L	
Benzo(b)fluoranthene	Monthly Avg	0.02 μg/L	
Benzo(k)fluoranthene	-	μg/L	
Benzo(g,h,i)perylene	-	μg/L	
Chrysene	Monthly Avg	0.02 μg/L	
Dibenzo(a,h)anthracene		μg/L	
Ethlybenzene	Monthly Avg	140 μg/L	
Ethylene Dibromide	Monthly Avg	0.005 μg/L	
Fluoranthene	Monthly Avg	80 μg/L	
Fluorene	Monthly Avg	80 μg/L	
Indeno(1,2,3-cd) pyrene	-	μg/L	
Lead	Monthly Avg	1.5 μg/L	
Methyl ethyl ketone	Monthly Avg	90 μg/L	
Methyl isobutyl ketone	Monthly Avg	50 μg/L	
Methyl tert-butyl ether	Monthly Avg	12 μg/L	
Naphthalene	Monthly Avg	10 μg/L	See Section 5.7
Phenanthrene	-	μg/L	
Pyrene	Monthly Avg	50 μg/L	
Pyridine	Monthly Avg	2 μg/L	
Styrene	Monthly Avg	10 μg/L	
Tetrahydrofuran	Monthly Avg	10 μg/L	
Toluene	Monthly Avg	160 μg/L	
Trimethylbenzenes	Monthly Avg	96 μg/L	
Xylene, Total	Monthly Avg	0.4 mg/L	
PAHs	Monthly Avg	0.1 μg/L	See Section 5.5 and Appendix C for calculation
BETX, Total	Monthly Avg	750 μg/L	
1,1-Dichloroethane	Monthly Avg	85 μg/L	
1,2-Dichloroethane	Monthly Avg	0.5 μg/L	

Parameter	Limit Type	Limit and Units	Note
1,1-Dichloroethylene	Monthly Avg	0.7 μg/L	
1,2-Dichloroethylene (cis)	Monthly Avg	7 μg/L	
1,2-Dichloroethylene (trans)	Monthly Avg	20 μg/L	
1,2-Dichlorobenzene	Monthly Avg	60 μg/L	
1,3-Dichlorobenzene	Monthly Avg	125 μg/L	
1,4-Dichlorobenzene	Monthly Avg	15 μg/L	
Bromoform	Monthly Avg	0.44 μg/L	
Carbon Tetrachloride	Monthly Avg	0.5 μg/L	
Chloroethane	Monthly Avg	80 μg/L	
Chloroform	Monthly Avg	0.6 μg/L	
Chloromethane	Monthly Avg	0.3 μg/L	
Dichlorobromomethane	Monthly Avg	6 μg/L	
Methylene Chloride	Monthly Avg	0.5 μg/L	
Pentachlorophenol	Monthly Avg	0.1 μg/L	
1,1,1,2-Tetrachloroethane	Monthly Avg	7 μg/L	
1,1,2,2-Tetrachloroethane	Monthly Avg	0.02 μg/L	
Tetrachloroethylene	Monthly Avg	0.5 μg/L	
1,1,1-Trichloroethane	Monthly Avg	40 μg/L	
1,1,2-Trichloroethane	Monthly Avg	0.5 μg/L	
Trichloroethylene	Monthly Avg	0.5 μg/L	
1,2,4-Trichlorobenzene	Monthly Avg	14 μg/L	
Vinyl Chloride	Monthly Avg	0.02 μg/L	
Nitrogen, Nitrate + Nitrate Total	Monthly Avg	2 mg/L	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	0.97 mg/L	

## 5.4 Sampling Frequency During Operation

The permittee shall record the total daily volume of wastewater discharged under this permit on each day there is a discharge. For all other parameters, in the first 4 weeks of discharge, the permittee shall sample the discharge weekly under Outfall 002. If the discharge continues after the first 4 weeks, the permittee shall sample the discharge monthly. If the discharge continues beyond one year since the start date and the monitoring results have not exceeded any permit discharge limitations, the department may approve in writing, a quarterly monitoring frequency.

A monthly or quarterly sampling frequency only applies if data indicates substantial compliance with effluent limits. If the sampling frequency is monthly or quarterly and an exceedance occurs, a weekly monitoring frequency must resume until substantial compliance is demonstrated for eight consecutive weeks. The department may require daily sampling for some parameters upon start-up of a treatment system, or when an exceedance occurs.

## 5.5 PAH Group of Ten

Permittees shall use EPA test method 610 or other EPA approved method to test for the PAH compounds. Permittees shall demonstrate compliance with the monthly average PAH group limit by reporting no detection of any of these PAH compounds, or by reporting the sum of the PAH group detected amounts equal to or less than 0.1  $\mu$ g/L. See Appendix C for the calculation of the concentration of the PAH group of 10 compounds.

## 5.6 Benzo(a)pyrene

Permittees shall use EPA test method 610 or other EPA approved method to test for benzo(a)pyrene. Permittees shall demonstrate compliance with monthly average benzo(a)pyrene limit by reporting no detection of benzo(a)pyrene, or by reporting a detected amount equal to or less than  $0.02~\mu g/L$ .

### 5.7 Naphthalene

Permittees shall use EPA test method 610 or other EPA approved method to test for naphthalene. Permittees shall demonstrate compliance with monthly average naphthalene limit by reporting no detection of naphthalene, or by reporting a detected amount equal to or less than  $10 \,\mu g/L$ .

#### 5.8 Solids Removal

The permittee shall visually inspect seepage areas during times of discharge to check that the infiltrative capacity of the soils is sustained. Any accumulated solids shall be removed from seepage areas to maintain the infiltrative capacity of the soils.

## 5.9 Adequate Design

The permittee shall limit wastewater discharges to absorption or seepage pond systems so that the discharge volume combined with the precipitation from a 10-year frequency, 24-hour duration rainfall event does not reduce the available freeboard to less than one foot below the top of the dike.

## 5.10 Discharge Location

The permittee shall direct the discharge to grass, soil, gravel areas, or seepage areas to the extent possible and infiltration of the discharge shall be maximized.

## 5.11 Discharge Rate

The permittee shall limit the discharge flow rate to a rate that can infiltrate into the soil surface.

#### 5.12 Runoff Control

The permittee shall limit the discharge flow rate to prevent the runoff of any wastewater from the site. The wastewater may not be discharged during any rainfall events that cause runoff from the site. Uncontaminated storm water may be allowed to drain from the site.

#### 5.13 Erosion Control

The permittee shall limit the discharge flow rate to prevent erosion when the vegetative cover has not developed sufficiently to anchor the soil and create the filter mat necessary for effective wastewater treatment.

## 5.14 Winter Operations

Winter operation may be allowed as long as the soil surface remains unfrozen. Since treatment efficiency and infiltration decreases in the winter, the department may require storage or additional treatment of the discharge during cold weather.

## 5.15 Groundwater Quality

The concentration of any wastewater parameter that may impact groundwater quality shall be limited at the point of discharge to a value that will minimize the concentration of the substance in the groundwater to the extent technically and economically feasible and prevent exceedance of the preventive action limit (PAL) in the groundwater.

## 5.16 Degradation By-Products

All by-products formed as a result of the remediation process shall be recaptured or further degraded to a point where it does not constitute further risk to either human health or the environment.

## 5.17 Groundwater Monitoring

Compliance with the limitations established by this permit shall be demonstrated by sampling wastewater treatment system effluent prior to seepage. However, permittees may discharge to the ground surface at limits higher than the preventive action limits (PALs) presented in this permit if the permittee installs a groundwater monitoring system or utilizes an existing groundwater monitoring system downgradient of seepage system to demonstrate compliance with this permit. The alternative sampling location must be stated in the discharge management plan and approved by the department in writing. If the groundwater monitoring system is installed or an existing groundwater monitoring system is utilized, then compliance with the PALs applies to any point at which groundwater is monitored.

**Note:** Any new or modified groundwater monitoring system associated with a wastewater treatment system must follow the requirements in chs. NR 140 and 141, Wis. Adm. Code and is subject to the department's approval pursuant to s. 281.41, Wis. Stats and ch. NR 108, Wis. Adm. Code. The plans and specifications shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921.

## 5.18 Water Treatment Additives for Groundwater Discharges

Permittees shall not place water treatment additives in any discharge unless the water treatment additive use is approved, in writing, by the department. An additive review is necessary for substances that may enter groundwater or substances that are used in an industrial process but are not expected to be removed by wastewater treatment and may impact groundwater quality. In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the NOI, the permittee shall submit a request and receive written approval from the department prior to initiating such changes. The permittee shall maintain a daily log of the approved water treatment additive use including the additive name, manufacturer, and daily maximum amount used on a monthly basis.

The additive review is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review.

The permittee shall provide the following information regarding water treatment additives to receive department approval:

- The commercial name of the additive and the Material Safety Data Sheet (MSDS);
- The proposed frequency of use;
- The amount or concentration to be used; and
- The anticipated discharge concentration.

The permittee shall not discharge any water treatment additive that will have a reasonable potential to exceed a groundwater quality standard pursuant to ch. NR 140, Wis. Adm. Code. If the discharge contains these types of water treatment additives, the permittee shall apply for an individual permit prior to discharging to groundwater.

## **6 Land Treatment Requirements**

## 6.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

	Sampling Point Designation				
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)				
004	Agri-Chemical Contaminated Wastewater: Landspreading or spray irrigation of any agricultural chemical contaminated wastewater generated that cannot be used as a product and that has no detrimental effect on soils, vegetation or groundwater. Samples representative of the discharge to the land application system shall be taken following treatment (if necessary) and prior to land application via Outfall 004 on department approved sites.				

## 6.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations. Monitoring is only required when wastewater being discharged to groundwater.

### 6.2.1 Sampling Point (Outfall) 004 - Agri-Chemical Contaminated WW

Permittees shall follow the requirements provided in Sections 6.2.2 through 6.2.9 and the reporting requirements in Section 6.3.

### 6.2.2 Discharge Rate

The permittee shall limit the discharge flow rate to a rate that can infiltrate into the soil surface. If runoff occurs, all spreading or spraying shall cease immediately.

#### 6.2.3 Chloride Loading

The permittee shall limit the total pounds of chloride applied to 340 pounds per acre per 2-year period.

#### 6.2.4 Nitrogen Loading

The permittee shall limit the total pounds of nitrogen applied per acre per year to the nitrogen needs of the cover crop (based on a reliable reference such as: A2809 Nutrient Application Guidelines for Field, Vegetable and Fruit Crops in Wisconsin, from UW-Ext., <a href="http://www.soils.wisc.edu/extension/pubs/A2809.pdf">http://www.soils.wisc.edu/extension/pubs/A2809.pdf</a>) minus any other nitrogen, including fertilizer or manure, added to the landspreading site. Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years.

#### 6.2.5 Ponding

The permittee shall limit the volume of wastewater landspread or sprayed to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs, all spreading or spraying shall cease immediately.

#### 6.2.6 Runoff Control

The permittee may not discharge wastewater during any rainfall events that cause runoff from the site. Uncontaminated storm water may be allowed to drain from the site.

#### 6.2.7 Erosion Control

The permittee shall limit the discharge flow rate to prevent erosion when the vegetative cover has not developed sufficiently to anchor the soil and create the filter mat necessary for effective wastewater treatment.

#### 6.2.8 Winter Operations

Winter operation may be allowed as long as the soil surface remains unfrozen. Since treatment efficiency and infiltration decreases in the winter, the department may require storage or additional treatment of the discharge during cold weather.

#### 6.2.9 Groundwater Quality

The concentration of any wastewater parameter that may impact groundwater quality shall be limited at the point of discharge to a value that will minimize the concentration of the substance in the groundwater to the extent technically and economically feasible and prevent exceedance of the preventive action limit (PAL) in the groundwater.

## 6.3 Reporting and Record Keeping Requirements

#### 6.3.1 Annual Certification Statement

The permittee shall submit and certify by written letter to the department each year that:

The facility has operated consistent with the approved discharge management plan and has followed monitoring requirements from Section 6.2 in accordance with Permit No. WI-0046566-07-0 for each discharge event over the past year.

The signature block shall include the following statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The certification statement shall be signed by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority in accordance with Section 7.2.1.

The certification statement is due by **January 31**<sup>st</sup> each year. The certification statement shall be mailed or emailed to the department regional general permit reviewer. A listing of general permit reviewers for each region with their contact information can found at: <a href="http://dnr.wi.gov/topic/wastewater/GeneralPermits.html">http://dnr.wi.gov/topic/wastewater/GeneralPermits.html</a>.

#### 6.3.2 Discharge Records

The permittee shall keep and maintain records of all certification statements, discharge activities and the results of the any visual inspections or monitoring. Records shall be made available for department inspection and submitted to the department upon request. Records shall be retained for a period of three years unless otherwise required by the department.

## 7 Standard Requirements

The conditions in ss. NR 205.07(1), 205.07(3), and 205.08(3), Wis. Adm. Code and 40 CFR 122 are included by reference in this permit. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirements can be found in the ss. NR 205.07(1), 205.07(3), and 205.08, Wis. Adm. Code and 40 CFR 122.

## 7.1 Reporting Requirements

The permittee shall comply with the following reporting requirements.

#### 7.1.1 Submittal of Monitoring Results

This permit requires that all monitoring data be submitted on an electronic discharge monitoring report (eDMR) in accordance with s. NR 205.07(1)(r), Wis. Adm. Code. Monitoring forms are due 21 days following the end of the reporting period. For instance, if a parameter is to be sampled quarterly, the monitoring results are due 21 days following the end of each quarter. The eDMR shall be certified electronically by a responsible executive or municipal officer, manager, partner, proprietor or other duly authorized representative as specified in s. NR 205.07(1)(g), Wis. Adm. Code, with an "eReport Certify" page that certifies that the electronic report form is true, accurate and complete. The eDMR can be accessed through DNR Switchboard (<a href="http://dnr.wi.gov/topic/switchboard/index.html">http://dnr.wi.gov/topic/switchboard/index.html</a>) using Internet Explorer. Other browsers such as Safari, Firefox, and Google Chrome may not work with the Switchboard.

**Note:** You must have or create a Wisconsin Web Access Management System (WAMS) ID and request access for each facility in order to access the forms. If you already have a WAMS ID, the you do not need to recreate one to access the eDMR.

Instructions and help with Switchboard/WAMS ID Registration can be found here: http://dnr.wi.gov/topic/wastewater/documents/WAMsSwitchboardHelp.pdf.

Instructions and help with filling out and submitting monitoring forms can be found here: <a href="http://dnr.wi.gov/topic/wastewater/eReporting.html">http://dnr.wi.gov/topic/wastewater/eReporting.html</a>.

#### 7.1.2 Reporting Conventions

The permittee shall use the following conventions when reporting effluent monitoring results except when otherwise noted:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified unless otherwise noted.
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a value of 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

### 7.1.3 More Frequent Monitoring

As specified in NR 205.07(1)(r), if the permittee monitors any parameter more frequently than required by the permit, using test procedures specified in ch. NR 204 or 219, Wis. Adm. Code or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report.

### 7.1.4 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the department as specified in s. NR 205.07(1)(u)2, Wis. Adm. Code, shall not be subject to the reporting required under this section.

#### 7.1.5 Spill Reporting

The permittee shall notify the department in accordance with ch. NR 706 (formerly ch. NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in the permit, or the spill or accidental release of the material is unregulated in the permit, unless the spill or release of pollutants has been reported to the department under this section.

Note: Section 292.11(2)(a), Wis. Stats., requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the department immediately of any discharge not authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.

#### 7.1.6 Planned Changes

In accordance with ss. 283.31 (4) (b) and 283.59 (1), Wis. Stats., the permittee shall report to the department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new general permit notice of intent or, if the new discharge will not violate the effluent limitations of the general permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on

existing waste treatment facilities. Following receipt of this report, the department may modify the general permit coverage letter to specify any discharges of pollutants not previously covered by the general permit.

#### 7.2 General Conditions for General Permits

The permittee shall comply with the following general conditions for general permits.

#### 7.2.1 Delegation of Signature Authority

The permittee must provide a delegation of signature authority (DSA) request (Form 3400-220, Delegation of Signature Authority) or equivalent for a duly authorized representative to submit specific documents on the behalf of a responsible executive, officer, manager, partner, or proprietor of a permitted discharge. An executive, officer, manager, partner, or proprietor can only delegate signature authority to a duly authorized representative if that person has responsibility for the overall operation of the facility or activity regulated by this general. The DSA request shall specify the name of the individual and their employment position. The DSA request must be submitted to the department with the NOI or together with the submittal of any required documents. If there are any changes to this request, a new DSA request shall be submitted to the department.

#### 7.2.2 Permit Coverage Transfers

A permit is not transferrable to any person except after notice to the department. Permittees that wish to transfer general permit coverage to a new permittee must submit a Transfer of Coverage (TOC, Form 3400-222). The TOC must be submitted at least thirty (30) days in advance of the proposed transfer date. All TOCs shall be completed by both the existing and new permittees including the "Certification & Signature" section and sent via mail or email to the department. The department will then send a letter to the existing permittee stating that their coverage is terminated under this general permit.

If the quality or quantity of the discharge has not changed at the facility, the department will send a letter of determination that grants coverage to the new permittee under this general permit. If there have been significant changes at the permitted facility, the new permittee shall submit a new NOI to the department.

#### 7.2.3 Permit Coverage Terminations

Permittees that wish to terminate their general permit coverage must submit a Notice of Termination (NOT, Form 3400-221) to the department. All NOTs must be completed by the permittee and including the "Certification & Signature" section and sent via mail or email to the department. The department will then send a termination letter to the permittee stating that their coverage is terminated under this general permit.

#### 7.2.4 Continuation of an Expired General Permit

If a permittee submitted a complete and timely NOI to be covered by this general permit, all conditions of an expired general permit shall continue to apply until the effective date of a new general permit.

#### 7.3 General Conditions for WPDES Permits

#### 7.3.1 Duty to Comply

The permittee shall comply with all conditions of the permit. Any permit noncompliance is a violation of the permit and is grounds for enforcement action; permit coverage termination; or denial of reapplying for permit coverage. If a permittee violates any terms of the permit, the permittee is subject to the penalties established in ch. 283, Wis. Stats.

#### 7.3.2 Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. The permit does not authorize any injury or damage to private property or any invasion of personal rights, or any infringement of federal, state or local laws or regulations.

#### 7.3.3 Inspection and Entry

The permittee shall allow an authorized representative of the department, upon the presentation of credentials, to:

- Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are required under the conditions of the permit;
- Have access to and copy, at reasonable times, any records that are required under the conditions of the permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit; and
- Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

#### 7.3.4 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

#### 7.3.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application. All pertinent sludge information, including notice of intent information and other documents specified in the permit or ch. NR 204, Wis. Adm. Code, shall be retained for a minimum of 5 years.

#### 7.3.6 Signatory Requirement

All permit notice of intents, reports and other information requested by the department shall be signed by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager partner or proprietor that has been delegated signature authority pursuant to NR 205.07(1)(g)2, Wis. Adm. Code.

#### 7.3.7 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in s. NR 108.06(2), Wis. Adm. Code. Proper operation and

maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

#### 7.3.8 Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent the likelihood of any adverse impacts to public health, the waters of the state, or the environment resulting from noncompliance with the permit.

#### 7.3.9 Duty to Provide Information

The permittee shall furnish the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, terminating, suspending, revoking or reissuing the permit or to determine compliance with the permit. The permittee shall give advance notice to the department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall also furnish the department, upon request, copies of records required to be kept by the permittee.

#### 7.3.10 Need to Halt or Reduce Activity Not a Defense

It is not a defense for a permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

#### 7.3.11 Sampling Procedures

The permittee shall take samples and measurements that are representative of the volume and nature of the monitored discharge at points specified in the permit using sample types specified in the permit. The permittee shall also follow the effluent flow measurement and sample collection procedures in ch. NR 218, Wis. Adm. Code.

## 7.3.12 Testing Procedures

Samples collected under this permit shall be tested for the parameters listed in this permit and follow approved test methods and procedures specified in ch. NR 219, Wis. Adm. Code. If the required level cannot be met by any of the methods available in ch. NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in the permit.

## 7.3.13 Laboratory Certification or Registration

Samples collected under this permit shall be tested and analyzed by a laboratory certified or registered under ch. NR 149, Wis. Adm. Code. A list of Wisconsin DNR accredited laboratories can be found here: <a href="https://dnr.wi.gov/regulations/labCert/LabLists.html">https://dnr.wi.gov/regulations/labCert/LabLists.html</a>. The following tests are excluded from this requirement:

- Temperature;
- Turbidity;
- Bacteria tests in wastewater effluent and sludges;
- pH:
- Chlorine residual;
- Specific conductance;
- Physical properties of soils and sludges;
- Nutrient tests of soils and sludges; and

Flow measurements.

#### 7.3.14 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a notice of intent or submitted incorrect information in a notice of intent or in any report to the department, it shall promptly submit such facts or correct information to the department.

#### 7.3.15 Bypassing

Except for a controlled diversion as specified in s. NR 205.07(1)(v), Wis. Adm. Code, any bypass is prohibited. The department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

#### 7.3.16 Permit as Enforcement Shield

Compliance with a permit during its term constitutes compliance for purposes of enforcement with 33 USC 1311, 1312, 1316, 1317, 1328, and 1345 (a) and (b), except for any toxic effluent standard or prohibition, and standards for sewage sludge use or disposal. If a new or revised toxic effluent standard or toxic prohibition becomes effective during the term of the permit, the permittee may be subject to enforcement action if the discharge exceeds the new or revised effluent standard for the toxic pollutant even though the discharge is in compliance with the existing permit. The permittee may also be subject to enforcement action standards for sewage sludge use or disposal. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code.

#### 7.3.17 Severability

The provisions of this permit are severable, and if any provisions of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

#### 7.3.18 Removed Substances

Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of wastewaters or intake waters shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state. Land disposal or application of treatment plant solids and sludges shall be at a site or operation licensed by the department under chs. NR 500 to 538, Wis. Adm. Code or chs. NR 660 to 670, Wis. Adm. Code or in accordance with ch. NR 204 or 214, Wis. Adm. Code.

## 7.3.19 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

## 8 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Notice of Intent	30 business days before the expected start date of discharge	3
Discharge Management Plan	Submitted with the NOI	4
Annual Certification Statement for Agri-Chemical Contaminated Wastewater	January 31, following each year	17
Wastewater Discharge Monitoring Report	21 days following the end of the reporting period	18
Delegation of Signature Authority (Form 3400-220)	Submitted with the NOI or together with the submittal of any required documents.	20
Notice of Termination (Form 3400-221)	After discontinuing permitted discharge.	20
Transfer of Coverage (Form 3400-222)	30 days in advance of the proposed transfer date.	20

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications of industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to the department regional general permit reviewer. A listing of the general permit reviewers for each region with mailing addresses and phone numbers can be found at <a href="http://dnr.wi.gov/topic/wastewater/GeneralPermits.html">http://dnr.wi.gov/topic/wastewater/GeneralPermits.html</a>

## **Appendices**

- A. Definitions
- **B.** Notice of Intent Form
- C. PAH Calculation
- **D.** Receiving Water Hardness Values

## Appendix A - Definitions

The definitions of terms used in this general permit are based on their applicability to the type of operations and activity covered under this general permit. The definitions of these terms are included by reference from department guidance, 40 CFR 122.2 and chs. NR 140, NR 200, NR 205, NR 211, and NR 218, Wis. Adm. Code. Definitions not specifically outlined in this section can be found in Wisconsin Administrative Code, Wisconsin Statutes, or 40 CFR. Each term is provided with its code reference. If the terms below are found to be inconsistent with the definition in code, permittees shall refer to the code definition.

## **Annual Sampling Frequency**

Annual sampling frequency means sampling the discharge once per calendar year (January 1<sup>st</sup> – December 31<sup>st</sup>). If there is no discharge during a calendar year, the permittee shall state this on the discharge monitoring report form.

### **Best Management Practices**

Best management practices or BMPs means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of wasters of the state. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (40 CFR 122.2)

### **Business Days**

Business days means each day except Saturday; Sunday; January 1; the third Monday in January, which shall be the day of celebration for January 15; the last Monday in May, which shall be the day of celebration for May 30; July 4; the first Monday in September; the 4th Thursday in November; December 24; December 25; December 31; and the day following if January 1, July 4 or December 25 falls on Sunday. (s. NR 200.02(1), Wis. Adm. Code)

## **Daily Maximum Discharge Limitation**

Daily maximum discharge limitation means the highest allowable daily discharge concentration or loading for a certain pollutant. (40 CFR 122.2)

## **Daily Sampling Frequency**

Daily sampling frequency means sampling the discharge once in a 24-hour day. If there is no discharge during a daily, the permittee shall state this on the discharge monitoring report form.

#### **Domestic Wastewater**

Domestic wastewater means the type of wastewater normally discharged from plumbing facilities in private dwellings or commercial domestic establishments and includes, but is not limited to, sanitary, bath, laundry, dishwashing, garbage disposal and cleaning wastewaters. (s. NR 205.03(14), Wis. Adm. Code)

#### **Estimated**

Estimated used to specify the type of sample for flow measurement, means a reasonable approximation of the average daily flow based on water balance, an uncalibrated weir, or any of the methods included in s. NR 218.05(3)(b), Wis. Adm. Code, disregarding requirements for continuously recording flow. (s. NR 218.04(15), Wis. Adm. Code)

## **Grab Composite Sample**

A grab composite sample means a combination of individual samples of equal volume taken at approximately equal intervals (not exceeding one hour) over a three-hour time period of normal operation of the facility. (s. NR 218.04(11), Wis. Adm. Code)

### **Grab Sample**

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 2-minute period. Where the term is used in connection with monitoring temperature or pH it means a single measurement. (s. NR 218.04(10), Wis. Adm. Code)

#### Groundwater

Groundwater means the portion of subsurface water which is within the zone of saturation and includes but is not limited to perched water tables, shallow regional groundwater tables, and aquifers or zones that are seasonally, periodically or permanently saturated. (s. NR 205.03(17), Wis. Adm. Code)

#### Infiltration

Infiltration means the underground emplacement of substances or remedial material, or both, into an excavation that is wider than deep so as to percolate or move through unsaturated material to groundwater. (s. NR 140.05(10e), Wis. Adm. Code)

## Injection

Injection means the underground emplacement of substances or remedial material, or both, into a borehole or other excavation that is deeper than wide so as to percolate or move through unsaturated material to groundwater or to enter groundwater directly. (s. NR 140.05(10s), Wis. Adm. Code)

### **Monthly Average Discharge Limitation**

Monthly average discharge limitation means the highest allowable average of daily discharge concentrations or loadings for a certain pollutant over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. (40 CFR 122.2)

## **Monthly Sampling Frequency**

Monthly sampling frequency means sampling the discharge once per calendar month (Jan., Feb. March, April, May, June, July, Aug., Sept., Oct., Nov. and Dec.). If there is no discharge during a calendar month, the permittee shall state this on the discharge monitoring report form.

## **Municipal Wastewater**

Municipal wastewater means the mixture of domestic, process and other wastewater tributary to any given municipal sanitary sewage or treatment system. (s. NR 205.03(19), Wis. Adm. Code)

#### PAHS

The polycyclic aromatic hydrocarbons (PAHs) includes the summation of the following ten individual compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. EPA method 610 or other EPA approved method shall be used to test for the PAH compounds. (PAH Group of 10 Calculation of Concentration Using Toxicity Equivalent Factors" (3400-2015-01))

#### **Process Wastewater**

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product, and is likely to contain in solution or suspension various components of such raw materials or products. (s. NR 205.03(30), Wis. Adm. Code)

## **Publicly Owned Treatment Works**

Publicly owned treatment works or POTW means a treatment works which is owned by a municipality and any sewers that convey wastewater to such a treatment works. This definition includes any devices or systems used by a municipality in the storage, treatment, recycling, and reclamation of municipal sewage or liquid industrial wastes. The term also means the municipality or local unit of government which has

jurisdiction over the indirect discharges to, and the discharges from, such a treatment works. (s. NR 211.03(30), Wis. Adm. Code)

## **Quarterly Sampling Frequency**

Quarterly sample frequency means monitoring four times per year; once anytime during each of the four annual quarters (Jan.-Feb.-March, April-May-June, July-Aug.-Sept., Oct.-Nov.-Dec.). If there is no discharge during a quarter, the permittee shall state this on the discharge monitoring report form.

#### **Remedial Action**

Remedial action means a response which is taken to achieve compliance with groundwater quality standards established under ch. NR 140, Wis. Adm. Code. This term includes, but is not limited to, actions designed to prevent or minimize the further discharge or release of substances to groundwater and actions designed to renovate or restore groundwater quality. (s. NR 140.05(20h), Wis. Adm. Code)

#### **Remedial Material**

Remedial material means any solid, liquid, semi—solid or gaseous material, either naturally occurring or manmade, in its original form or as a metabolite or degradation product, or naturally occurring non—pathogenic biological organisms which have not undergone human induced genetic alteration, which enhances the restoration of soil or groundwater quality, or both. (s. NR 140.05(20k), Wis. Adm. Code)

#### Substance

Substance means any solid, liquid, semisolid, dissolved solid or gaseous material, naturally occurring or man—made chemical, parameter for measurement of water quality or biological organism which, in its original form, or as a metabolite or a degradation or waste product, may decrease the quality of groundwater. (s. NR 140.05(21), Wis. Adm. Code)

#### **Surface Waters**

Surface waters means waters of the state except wells and other groundwater. Cooling lakes, farm ponds and facilities constructed for the treatment of wastewaters are also excluded from this definition. (s. NR 200.03(18), Wis. Adm. Code)

#### **Total BETX**

Total BETX (benzene, ethylbenzene, toluene, and xylenes) includes the summation of the following individual compounds: benzene, ethylbenzene, toluene and total xylenes (including ortho-, meta-, and para-xylene). EPA method 1624C or other EPA approved method shall be used to measure benzene, ethylbenzene, toluene, and total xylenes (including ortho-, meta-, and para-xylene).

#### Waters of the State

Waters of the state means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person. (s. NR 205.03(44), Wis. Adm. Code)

## **Weekly Average Discharge Limitation**

Weekly Average discharge limitation means the highest allowable average of daily discharge concentrations or loadings for a certain pollutant over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. (40 CFR 122.2)

Weekly Sampling Frequency
Weekly sampling frequency means sampling the discharge once per calendar week which begins on
Sunday and ends on Saturday. If there is no discharge during a calendar week, the permittee shall state this on the discharge monitoring report form.

## **Appendix B – Notice of Intent Form**

State of Wisconsin Department of Natural Resources Bureau of Water Quality PO Box 7921, Madison WI 53707-7921 dnr.wi.gov Notice of Intent (NOI) Contaminated Groundwater from Remedial Action Operations WPDES Permit No. WI-0046566-07-0

Rev. 06/2018

**Notice:** Pursuant to chs. NR 200 and 205, Wis. Adm. Code, this notice of intent (NOI) is required to request coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0046566-07-0 for discharges of contaminated groundwater to waters of the state of Wisconsin. Failure to complete this form in its entirety may result in a returned NOI or a denied NOI. Personal information collected will be used for administrative purposes and may be provided to requestors to the extent required by Wisconsin Open Records law [ss. 19.31-19.39, Wis. Stats.].

<b>SECTION I: FACILITY</b>	PROJECT LOCATION IN	FORMATION		
Facility/Project Name		Facility Mailing Address (i.e. PO Box, Street, or Route)		
Facility/Project Physical Address (i.e. Street or Route)		City, State, Zip Code		
County Facility Phone No.		Facility Fax No.	Facility Email Address	
SECTION II: FACILITY	Y CONTACT INFORMATI	ON	/	
Facility Operator/Plant M	<b>l</b> anager	Title		
Company		Contact Mailing Address (i.e	. PO Box, Street, or Route)	
City, State, Zip Code		Contact Phone No.	Alternative Phone No.	
Contact Fax No.		Contact Email Address		
Discharge Monitoring Contact Name		Title		
Company		Contact Mailing Address (i.e. PO Box, Street, or Route)		
City, State, Zip Code	/	Contact Phone No.	Alternative Phone No.	
Contact Fax No.		Contact Email Address		
Authorized Representative Name		Title		
Company		AR Mailing Address (i.e. PO	Box, Street, or Route)	
City, State, Zip Code		AR Phone No.	Alternative Phone No.	
AR Fax No.		AR Email Address		

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## Notice of Intent (NOI) Contaminated Groundwater from Remedial **Action Operations** WPDES Permit No. WI-0046566-07-0

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SECTION III: FACILI	TY OWNER MAII	LING ADDRE	CSS (if different from Auth	norized Representat	ive)
Facility Owner Name			Title		
Parent Company		Owner Mailing Address (i.e. PO Box, Street, or Route)			
City, State, Zip Code			Owner Phone No.	Alternative Phone No.	
Contact Fax No.			Contact Email Address		
SECTION IV: DISCH.	ARGE CHARACT	ERIZATION			
Type of Wastewater (check all that apply):	Discharge Frequency (e.g. Annual, Monthly, Daily)	Average Daily Flow (gallons of water discharged per day)	Type of Wastewater (check all that apply):	Discharge Frequency (e.g. Annual, Monthly, Daily)	Average Daily Flow (gallons of water discharged per day)
Treated wastewater from groundwater remediation project			Cleaning or decontamination wastewaters from the cleaning of treatment equipment for a remediation project		
Infiltration or injection of a substance or remedial material for remediation of soil or groundwater			Other (describe type)		
Treated wastewater from dewatering of construction trenches or pits			Other (describe type)		
Landspreading or spray irrigation of agricultural chemical contaminated wastewater			Other (describe type)		
SECTION V: ELIGIBII	LITY CHECKLIST				•
tribes and land within red Yes. Your discharge from properties in tribal	cognized reservation rge is not eligible fo lands, you do not rea	boundaries)?  This General quire regulation	thin tribal lands (i.e. land of the land of the land of the lands) and the lands of	from your facility g rge permit. Therefor	to to or come re, skip the

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Environmental Protection Agency (EPA) regulates discharges within tribal lands.
□ No. Proceed to question 2.
2. Is the wastewater discharged to a Publicly Owned Treatment Works (i.e. sanitary sewer)? A septic system is <u>not</u> considered a sanitary sewer.
Yes. Your discharge is not eligible for this General Permit. If all discharges from your facility go to a sanitary sewer, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. If at some point in the future operations at your facility result in a discharge, you will need to inform the Department. If only some or no discharges from your facility go to the sanitary sewer, please proceed to question 3.
□ No. Proceed to question 3.
3. Are any of the following wastewaters discharged or mixed with the above wastewaters to surface water or groundwater: Contact or noncontact cooling water, water from boiler cleaning operations, air compressor condensate contaminated with oil and grease, softener regeneration backwash, municipal wastewater, domestic wastewater, or process wastewaters from the production of any material or product, or other wastewater not otherwise cover by this general permit?
Yes. Your discharge is not eligible for this General Permit. Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
□ No. Proceed to question 4.
4. What is the receiving water for your discharge? If your facility has more than one outfall, indicate in the space provided which outfalls go to groundwater and which go to surface waters. (check all that apply)
Groundwater Discharge (any wastewater that is allowed to infiltrate or seep into the soil from a permeable surface including but not limited to any drain field, agricultural field, ditch, swale, depression, trench or pit, adsorption pond, infiltration pond, rain garden, prairie, or vegetative area that may impact groundwater quality). If you will only be discharging to groundwater, please proceed to question 5.
Outfall #(s):
Wetland Discharge (any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a wetland. Wetlands mean an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions). If you will only be discharging to wetlands, please proceed to question 5.
Outfall #(s):
<b>Note:</b> The Department will need to determine if your discharge would cause significant adverse impacts to wetlands
Surface Water Discharge (any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a creek, stream, pond, marsh, bay, reservoir, river, lake, or other surface water within the state of Wisconsin). Proceed to question 4A.
Outfall #(s):

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A. What is the name(s) of the surface water your discharge enters?
Proceed to question 4B.
B. What is the Water Body Identification Code (WBIC) of the surface water your discharge enters?
Proceed to question 4C.
<b>Note:</b> The WBIC for a specific surface water can be found at: <a href="http://dnr.wi.gov/water/waterSearch.aspx">http://dnr.wi.gov/water/waterSearch.aspx</a> .
C. Is the discharge directly to a surface water classified as an outstanding or exceptional resource waters as defined in ch. NR 102, Wis. Adm. Code.?
Yes. Your discharge is not eligible for this General Permit. Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
☐ No. Proceed to question 4D.
D. Is the discharge directly to a surface water classified as a public water supply (i.e. Lake Superior, Lake Michigan and Lake Winnebago) in ch. NR 104, Wis. Adm. Code?
Yes. Your discharge is not eligible for this General Permit. Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.
☐ No. Proceed to question 5.
5. Does the discharge contain water treatment additives (i.e. biocides such as microbicides, fungicides, molluscicdes, chlorine, etc.) or water quality conditioners (i.e. scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, etc.) that may enter surface water or groundwater without receiving wastewater treatment or that are used in a treatment process but are not expected to be removed by wastewater treatment?
Yes. For each additive used, please fill out and attach an Additive Review Worksheet. Additive Review Worksheets must be completed to receive coverage under this general permit. The Additive Review Worksheet is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review. Proceed to question 6.  No. Proceed to question 6.
6. Will chlorine-based compounds be used to control the growth of micro-organisms in the treatment system or used to
decontaminate the treatment system after completion of the remediation project?
Yes. Proceed to question 6A.
☐ No. Proceed to question 7.
A. Will chemicals be used to dechlorinate the wastewater prior to discharge to surface water?
Yes. The wastewater will be dechlorinated with chemicals. Proceed to question 7.
☐ No. The wastewater will not be dechlorinated with chemicals. Proceed to question 7.

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#### Notice of Intent (NOI) Contaminated Groundwater from Remedial Action Operations WPDES Permit No. WI-0046566-07-0

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7. Is a discharge management plan attached to this NOI that includes all the information necessary from Section 3 of the permit?			
Yes. Proceed to question 8.			
No. This form will be considered incomplete and returned to you.			
8. Has the groundwater at the site been analyzed for contammanagement plan?	inants and are the results attach to the discharge		
☐ Yes. Proceed to question 9.			
No. This form will be considered incomplete and inc	returned to you.		
9. If a treatment facility is required for the treatment of cont been submitted to or approved by the department under s. 25			
Yes. Proceed to Section VI.			
$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	find out how to get the plans approved. Proceed to		
<b>Note:</b> Department wastewater plan review staff can be foun <a href="http://dnr.wi.gov/topic/wastewater/planreviewers.html">http://dnr.wi.gov/topic/wastewater/planreviewers.html</a> .	d here:		
Additionally, department plan submittal requirements can b <a href="http://dnr.wi.gov/topic/wastewater/AdequateSubmittal.html">http://dnr.wi.gov/topic/wastewater/AdequateSubmittal.html</a>			
SECTION VI: CERTIFICATION			
This form must be signed by a responsible executive or municipal 283.37(3), Wis. Stats., or a duly authorized representative of the a signature authority pursuant to s. NR 205.07(1)(g)2., Wis. Adm. Contractive, please submit a Delegation of Signature Authority	officer, manager, partner or proprietor that has been delegated Code. To delegate signatory authority to a duly authorized		
I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			
Authorized Representative Name	Title		
Authorized Representative Signature	Date Signed		
Submitter Name (If different from Authorized Representative)	Title		
Submitter Signature	Date Signed		

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Please print and sign this certification page. Scan and email the completed form, certification page and any other supporting information to the department regional general permit reviewer at least thirty (30) business days before the expected start date of discharge. A listing of the general permit reviewers for each region with mailing addresses and phone numbers can be found at <a href="http://dnr.wi.gov/topic/wastewater/GeneralPermits.html">http://dnr.wi.gov/topic/wastewater/GeneralPermits.html</a>. Please scroll to the "How to Apply" section and click the department region that the discharge is located in.

#### **Appendix C – PAH Calculation**

The polycyclic aromatic hydrocarbons (PAHs) shall include a summation of the following ten individual compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. In determining compliance with the PAH limit of 0.1  $\mu$ g/L, the permittee shall use the toxicity equivalent factor shown in Table 1. For calculating the concentration for the PAH group of 10, multiply the concentration of each PAH compound by the corresponding TEF value and the sum the results. For results < LOD, a zero may be used for the concentration. Refer to Section 7.1.2 of the permit for reporting conventions.

**Table 1. Toxicity Equivalent Factors for PAH Compounds** 

PAH Compounds	TEF – Toxicity Equivalent Factor
Benzo(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(g,h,i)perylene	0.01
Benzo(k)fluorathene	0.01
Chrysene	0.001
Dibenzo(a,h)anthracene	1
Fluoranthene	0.001
Indeno(1,2,3-cd)pyrene	0.1
Phenanthrene	0.001
Pyrene	0.001

# **Appendix D – Receiving Water Hardness Values**Period of Record (1/1/1988 – 6/30/2015)

County	Sub-Basin Name and Site Location	# of Results	Mean Hardness (ppm)
Adams	Roche-a-Cri River	5	134
Ashland	Bad River near Odanah (USH 2)	61	58
Ashland	Ballou Creek above Devils Creek	5	48
Ashland	Devils Creek above mouth of Ballou Cr	10	40
Ashland	Lake Superior (Chequamegon Bay) near Ashland	26	49
Barron	Hay River	5	67
Barron	Red Cedar Lake near Mikana	5	64
Barron	Red Cedar River (Rice Lake, Cameron)	41	76
Brown	Apple Creek	4	384
Brown	Ashwaubenon Creek	4	384
Brown	Dutchman Creek	4	373
Brown	Fox River at De Pere	139	182
Brown	Fox River at Little Rapids	17	185
Brown	Fox River at mouth, Green Bay	97	189
Brown	Plum Creek at highway D	4	413
Buffalo	Buffalo River at Highway H (Mondovi)	12	89
Buffalo	Buffalo River near mouth of Hutchinson Creek (Town of Alma)	25	172
Buffalo	Buffalo River near mouth (Alma)	53	172
Buffalo	Mississippi River at Lock/Dam #4 near Alma	21	137
Buffalo	Trempealeau River at Highway P (Dodge)	46	134
Burnett	St. Croix River at Danbury	8	62
Burnett	Wood River	15	65
Calumet	Mud Creek near Stockbridge	8	408
Chippewa	Axe Handle Lake	6	9
Chippewa	Cornell Lake	4	56
Chippewa	Duncan Creek	18	38
Chippewa	Long Lake	24	56
Chippewa	Round Lake	21	7
Chippewa	Yellow River near Cadott	15	61
Chippewa	Wolf River near Stanley	19	116
Chippewa	Chippewa River, Holcombe Flowage to Chippewa Falls	174	44
Clark	North Fork Eau Claire River near Thorp	10	117
Clark	Black River, Withee to Neillsville	110	71
Clark	Popple River near Owen	18	96
Clark	Arnold Creek near Lake Arbutus	12	8
Columbia	Crawfish River near Columbus	11	339
Crawford	South Branch Copper Creek	6	283
County	<b>Sub-Basin Name and Site Location</b>	# of	Mean

		Results	Hardness (ppm)
Crawford	Kickapoo River	22	261
Crawford	Sugar Creek	6	293
Dane	Starkweather Creek, Madison	61	337
Dane	Sugar River at Belleville	31	313
Dane	Garfoot Creek near Cross Plains	4	292
Dodge	Rubicon River below Hartford	7	403
Door	Ahnapee River at Forestville	5	381
Door	Keyes Creek	4	324
Door	Renard Creek	4	400
Door	Clark Lake	12	222
Douglas	Bois Brule River at highway 13	27	61
Douglas	Nemadji River near South Superior	11	121
Douglas	St. Croix Lake to St. Croix Flowage	6	47
Douglas	Leo Creek near Solon Springs	7	53
Dunn	Chippewa River near Caryville	13	50
Dunn	Eau Galle River near mouth	12	233
Dunn	Wilson Creek near Menomonie	12	286
Dunn	Gilbert Creek near Menomonie	12	282
Dunn	Tainter Lake (Red Cedar River)	10	95
Dunn	Red Cedar River at Menomonie	109	102
Eau Claire	Black Creek near Fairchild	12	20
Eau Claire	Bridge Creek near Augusta	9	30
Eau Claire	Beaver Creek near Brackett	12	24
Eau Claire	Otter Creek near Brackett	20	85
Eau Claire	Chippewa River at Eau Claire	11	50
Eau Claire	Coon Fork Lake	6	16
Eau Claire	Eau Claire River (incl. North & South Forks) Near Fall Creek/Eau Claire	18	41
Florence	Keyes Lake	12	71
Florence	Lost Lake	12	6
Florence	Patten Lake	14	89
Florence	Popple River at Forest Road 2159 (Town of Fence)	70	98
Fond du Lac	Fond du Lac River in Fond du Lac	4	263
Fond du Lac	Silver Creek at Ripon	7	356
Fond du Lac	Forest Lake	5	125
Fond du Lac	Parnell Creek near Dundee	30	224
Grant	Rattlesnake Creek near Beetown	17	379
County	Sub-Basin Name and Site Location	# of Results	Mean Hardness (ppm)
Green	Sugar River at Brodhead	52	303
Green	Pecatonica River at state line	20	341

C I -1	Fox River at Berlin	27	203
Green Lake Green Lake	Grand River near Kingston	27	203
Green Lake Green Lake	C	6 5	
	Green Lake (Big) Little Green Lake near Markesan	<i>3</i> 7	226
Green Lake		11	159
Iowa	Livingston Branch		395
Iowa	Brewery Creek near Mineral Point	70	394
Iowa	Rock Branch	13	402
Iron	Montreal River near mouth	13	48
Iron	Bull Gus Creek at Forest Rd 703	5	34
Iron	Javorsky Creek at highway 77	5	44
Iron	Norman Creek at Forest Rd 701	6	25
Iron	Potato River near highway 77	10	30
Iron	Sixteen Creek near highway 77	4	51
Iron	Tyler Forks near highway 77	29	32
Jackson	North Branch Trempealeau River near Hixton	5	41
Jackson	Wazee Lake	7	111
Jackson	Black River, Lake Arbutus to Melrose (near Black River Falls)	125	41
Jackson	East Fork Black River	13	17
Jackson	Hay Creek	14	9
Jefferson	Crawfish River at Milford	9	340
Jefferson	Rock Lake near Lake Mills	5	219
Jefferson	Blue Spring Lake near Palmyra	6	276
Jefferson	Bark River, Rome to Fort Atkinson	12	311
Jefferson	Lake Ripley near Cambridge	5	244
Juneau	Wisconsin River at Petenwell Dam (Hwy 21)	44	68
Kenosha	Fox River near New Munster	40	333
Kenosha	Kilbourn Road Ditch at highway K	8	318
Kenosha	Powers Lake	8	221
Kenosha	Barnes Creek	4	464
Kenosha	Pike Creek	5	339
Kenosha	Pike River (including North and South Br.)	21	207
Kewaunee	Stoney Creek near mouth	4	325
Kewaunee	Kewaunee River near Kewaunee	52	329
Kewaunee	Neshota River near county line	5	385
La Crosse	Halfway creek at highway ZN near Holmen	8	260
		# of	Mean
County	<b>Sub-Basin Name and Site Location</b>	Results	Hardness
		Results	(ppm)
Langlade	Pickerel Creek	12	41
Langlade	Wolf River near highway 64	60	99
Lincoln	Wisconsin River at Merrill	87	41
Manitowoc	East Twin River	39	325
Manitowoc	West Twin River	41	329

Manitowoc	Long Lake	6	151
Manitowoc	Manitowoc River at highway JJ, Manitowoc	13	329
Manitowoc	Silver Lake	6	233
Manitowoc	Pigeon Lake	12	217
Manitowoc	Pigeon River	11	326
Marathon	Wisconsin River at Wausau	71	43
Marathon	Pike Lake	4	136
Marinette	Menominee River near Niagara	12	85
Marinette	Menominee River near McAllister	16	105
Marinette	Menominee River at Marinette	87	123
Marinette	Little Peshtigo River	4	262
Marinette	Peshtigo River at Peshtigo	90	137
Marquette	White River near Neshkoro	4	177
Milwaukee	Lincoln Creek	34	199
Milwaukee	Milwaukee River at Estabrook Park	53	313
Milwaukee	Milwaukee River, North Avenue Dam	9	308
Milwaukee	Noyes Creek	10	86
Milwaukee	Underwood Creek	11	114
Milwaukee	Menomonee River	55	211
Milwaukee	Kinnickinnic River	22	300
Milwaukee	Wilson Park Creek	52	391
Milwaukee	Oak Creek and north branch	13	330
Milwaukee	Root River	10	276
Milwaukee	Milwaukee River at mouth, harbor	29	200
Monroe	LaCrosse River at Sparta	16	77
Monroe	Little Lacrosse River	4	242
Monroe	Brush Creek	9	280
Monroe	Lemonweir River near Tomah	16	96
Monroe	Allen Creek at Grover Rd	4	110
Oconto	Pensaukee River	43	263
Oconto	Bear Paw Lake	6	35
Oconto	Oconto River, Gillett to mouth	93	150
County	Sub-Basin Name and Site Location	# of	Mean Hardness
County	Sub-dasin Name and Site Location	Results	(ppm)
Outagamie	Bear Creek at Stephensville	4	355
Outagamie	Black Creek at Seymour	4	366
Outagamie	Shioc Creek	5	288
Outagamie	Fox River at Appleton	61	182
Outagamie	Fox River at Kaukauna	18	184
Outagamie	Kankapot Creek	4	421
Ozaukee	Sauk Creek	13	414
Ozaukee	Spring Lake	4	257

Pepin	Chippewa River at Durand	130	63
Pepin	Bear Creek	4	250
Pierce	Eau Galle River at Spring Valley	12	186
Pierce	Plum Creek	17	132
Pierce	Mississippi River at Lock/Dam #3 near Red Wing, MN	27	183
Pierce	Trimbelle River	19	283
Pierce	Isabelle Creek near Ellsworth	20	313
Pierce	Rush River	31	240
Pierce	Kinnickinnic River near River Falls	40	214
Polk	Cedar Lake	26	118
Polk	Horse Creek	9	100
Polk	Rice Lake near Milltown	33	121
Polk	St. Croix River near St. Croix Falls	15	81
Polk	Wood River near headwaters	5	68
Portage	Collins Lake	4	88
Portage	Wisconsin River at Lake Dubay	41	51
Portage	Wisconsin River at Stevens Point	65	49
Portage	Mill Creek	28	201
Price	Flambeau River, Park Falls	35	43
Price	South Fork Jump River	10	93
Racine	Wind Lake	9	242
Racine	Root River Canal, incl. West and East Branches	28	379
Racine	Raymond Creek	5	318
Racine	Husher Creek	5	448
Racine	Hoods Creek	5	347
Racine	Root River at Johnson Park, Racine	103	353
Richland	Pine River at Richland Center	8	234
Richland	Camp Creek	12	264
Rock	Yahara River at Fulton	9	272
		# of	Mean
County	Sub-Basin Name and Site Location	Results	Hardness
Rock	Rock River, Indianford to Afton	66	<b>(ppm)</b> 308
Rock	Turtle Creek at Beloit	9	346
Rusk	Deer Tail Creek near Glen Flora	9	93
Rusk	Flambeau River near Ladysmith	11	38
Rusk	Sand Lake	18	62
Sauk	Wisconsin River at Wisconsin Dells	24	72
Sauk	Dutch Hollow Lake	4	117
Sauk	Baraboo River at Reedsburg	4 14	172
Sauk	Redstone Lake	4	115
Sauk	Sissabagama Lake	4	36
Shawano	Bealieu Lake	18	15
Silawalio	Dealieu Lane	10	13

Shawano	Red River (incl. branches)	110	136
Shawano	Embarrass River (incl. branches)	29	183
Shawano	Island Lake	20	90
Shawano	Koonz Lake	20	17
Shawano	Malone Lake	21	162
Shawano	Mill Creek	19	105
Shawano	Miller Creek	38	108
Shawano	Silver Creek	16	138
Shawano	Smith Creek tributary	15	111
Shawano	White Clay Lake	6	238
Shawano	Wolf River at Shawano	4	145
Sheboygan	Crooked Lake	4	230
Sheboygan	Mullet River	64	317
Sheboygan	Crystal Lake	14	178
Sheboygan	Onion River	16	332
Sheboygan	Fisherman Creek	6	236
Sheboygan	Sheboygan River, Kohler to Sheboygan	159	309
Sheboygan	Pigeon River at Howards Grove	4	357
Sheboygan	Barr Creek near Cedar Grove	18	352
Sheboygan	Black River near Sheboygan	5	401
St. Croix	Tiffany Creek	12	231
St. Croix	Beaver Creek	22	165
St. Croix	Black Brook	4	117
St. Croix	Hutton Creek	4	202
St. Croix	Willow River, New Richmond to Hudson	115	182
St. Croix	Bass Lake	26	138
		# of	Mean
County	Sub-Basin Name and Site Location	Results	Hardness
St. Consis	Conservat often	21	( <b>ppm</b> )
St. Croix	Squaw Lake South Fork Willow River	21 4	19
St. Croix	Rib Lake		190
Taylor	Buffalo River at Strum	12 14	34 50
Trempealeau		14 19	69
Trempealeau Trempealeau	Trempealeau River at Whitehall Beaver Creek near Galesville	16	169
Trempealeau	Black River at Galesville	116	53
Vernon	Coon Creek	7	277
Vernon		17	267
Vernon	Bad Axe River, North and South Forks Billings Creek	11	256
	~		
Vernon Vernon	Cheyenne Valley Creek Timber Coulee Creek	4 7	295 263
Vernon	Warner Creek	4	203
Vernon	West Fork Kickapoo River	21	241
A CHIOH	WEST LOLK KICKADOO KIACL	<i>L</i> 1	Z41

Vilas	Annabelle Lake	4	10
Vilas	Black Oak Lake	6	22
Vilas	North Twin Lake	4	44
Vilas	South Twin Lake	4	42
Walworth	Booth Lake	4	151
Walworth	Potter Lake	11	177
Walworth	Lake Geneva	6	225
Walworth	Ore Creek	8	386
Walworth	White River	17	294
Walworth	Nippersink Creek, including branches	32	383
Walworth	Whitewater Lake	6	172
Washburn	Namekagon River at Minong	15	76
Washburn	Yellow River	6	93
Washington	Little Cedar Lake	7	218
Washington	Big Cedar Lake	30	232
Washington	East Branch Rock River near Allenton	15	364
Washington	Rubicon River near Hartford	18	380
Washington	Pike Lake	5	270
Washington	Friess Lake	6	346
Waukesha	Poplar Creek	8	339
Waukesha	Pewaukee Lake	6	256
XX711	Fox River at Waukesha	88	262
Waukesha	Fox River at waukesna	00	362
Waukesha Waukesha	Eagle Spring Lake	6	228
Waukesha	Eagle Spring Lake		228 Mean
		6	228 Mean Hardness
Waukesha	Eagle Spring Lake	6 # <b>of</b>	228 Mean
Waukesha County	Eagle Spring Lake  Sub-Basin Name and Site Location	6 # of Results	228 Mean Hardness (ppm)
Waukesha  County  Waukesha	Eagle Spring Lake  Sub-Basin Name and Site Location  Mukwonago River	6 # of Results	228 Mean Hardness (ppm) 263
Waukesha Waukesha Waukesha	Eagle Spring Lake  Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake	6 # of Results 8 9	228 Mean Hardness (ppm) 263 264
Waukesha Waukesha Waukesha Waukesha	Eagle Spring Lake  Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka	6 # of Results 8 9 7	228 Mean Hardness (ppm) 263 264 304
Waukesha Waukesha Waukesha Waukesha Waukesha	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake	6 # of Results 8 9 7 8	228 Mean Hardness (ppm) 263 264 304 188
Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle	6 # of Results 8 9 7 8 6	228 Mean Hardness (ppm) 263 264 304 188 260
Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake	6 # of Results 8 9 7 8 6 4	228 Mean Hardness (ppm) 263 264 304 188 260 187
Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc	6 # of Results 8 9 7 8 6 4 16	228 Mean Hardness (ppm) 263 264 304 188 260 187 279
Waukesha	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River	6 # of Results 8 9 7 8 6 4 16 4	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250
Waukesha	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River Pigeon River at Clintonville	6 # of Results 8 9 7 8 6 4 16 4 5	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250 255
Waukesha Waupaca Waupaca	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River Pigeon River at Clintonville School Section Lake	6 # of Results  8 9 7 8 6 4 16 4 5 4	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250 255 236
Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waupaca Waupaca Waupaca Waupaca	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River Pigeon River at Clintonville School Section Lake Waupaca River at Weyauwega	6 # of Results  8 9 7 8 6 4 16 4 5 4 5	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250 255 236 211
Waukesha Waupaca Waupaca Waupaca Waupaca Waupaca	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River Pigeon River at Clintonville School Section Lake Waupaca River at Weyauwega Wolf River at New London	6 # of Results  8 9 7 8 6 4 16 4 5 4 5 96	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250 255 236 211 173
Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waupaca Waupaca Waupaca Waupaca Waupaca Waupaca Waupaca Waupaca	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River Pigeon River at Clintonville School Section Lake Waupaca River at Weyauwega Wolf River at New London Johns Lake	6 # of Results  8 9 7 8 6 4 16 4 5 4 5 96 5	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250 255 236 211 173 178
Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waukesha Waupaca	Sub-Basin Name and Site Location  Mukwonago River Okauchee Lake Lake Nagawicka Middle Genesee Lake Lac La Belle Pretty Lake Oconomowoc River near Oconomowoc Little Wolf River Pigeon River at Clintonville School Section Lake Waupaca River at Weyauwega Wolf River at New London Johns Lake Long Lake	6 # of Results  8 9 7 8 6 4 16 4 5 4 5 96 5 4	228 Mean Hardness (ppm) 263 264 304 188 260 187 279 250 255 236 211 173 178 147

Winnebago	Arrowhead Creek near Winneconne	6	395
Winnebago	Fox River at Oshkosh	22	187
Winnebago	Fox River at Lake Winnebago outlet	66	181
Winnebago	Lake Winnebago near Oshkosh	6	181
Wood	Wisconsin River at Biron	60	59
Wood	Wisconsin River at Nekoosa	41	68