



WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
**PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

VILLAGE OF MOUNT HOREB

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at
2450 SAND ROCK ROAD, MOUNT HOREB, WISCONSIN
to
**West Branch Sugar River (West Branch Sugar River/Mount Vernon Creek Watershed,
SP16 – Sugar-Pecatonica River Basin) in Dane County**

in accordance with the effluent limitations, monitoring requirements and other conditions set
forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Tim Ryan
Field Operations Director

Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - April 01, 2025

EXPIRATION DATE - March 31, 2030

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1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
701	Influent: 24-hour flow proportional composite sampler located in the preliminary treatment building, after the mechanical bar screen and prior to grit removal. Flow is monitored by an ultrasonic flow meter at the Parshall flume located outside of the preliminary treatment building after grit removal.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INFLUENT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD ₅ , Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	

2 Surface Water Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	Effluent: 24-hour flow proportional composite and grab samples shall be collected from the bottom of the cascade aerator, prior to discharge to the West Branch of the Sugar River. Flow is monitored by an ultrasonic flow meter at the Parshall flume located downstream of the UV disinfection.
601	In-stream Sampling Point 601: Representative water samples shall be collected from the West Branch of the Sugar River. Sample point 601 is located downstream of the Mount Horeb WWTF outfall, at the intersection of County Highway JG and Lewis Road (42.94474, -89.71970). Sample point 601 correlates with the sample locations described in the approved AM Plan No. WQT-2024-0004 (November 2023).
602	In-stream Sampling Point 602: Representative water samples shall be collected from the West Branch of the Sugar River. Sample point 602 is located upstream of the Mount Horeb WWTF outfall, at Docken Road (42.9926, -89.7451). Sample point 602 correlates with the sample locations described in the approved AM Plan No. WQT-2024-0004 (November 2023).

2.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point (Outfall) 001 - EFFLUENT

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD ₅ , Total	Weekly Avg	22 mg/L	3/Week	24-Hr Flow Prop Comp	October - April
BOD ₅ , Total	Weekly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	May - September
BOD ₅ , Total	Monthly Avg	22 mg/L	3/Week	24-Hr Flow Prop Comp	October - April
BOD ₅ , Total	Monthly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	May - September
Suspended Solids, Total	Weekly Avg	22 mg/L	3/Week	24-Hr Flow Prop Comp	October - April
Suspended Solids, Total	Weekly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	May - September
Suspended Solids, Total	Monthly Avg	22 mg/L	3/Week	24-Hr Flow Prop Comp	October - April
Suspended Solids, Total	Monthly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	May - September
pH Field	Daily Min	6.0 su	5/Week	Grab	
pH Field	Daily Max	9.0 su	5/Week	Grab	

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Dissolved Oxygen	Daily Min	6.0 mg/L	5/Week	Grab	
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	4.0 mg/L	3/Week	24-Hr Flow Prop Comp	October - April
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	May - September
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	4.0 mg/L	3/Week	24-Hr Flow Prop Comp	October - April
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	May - September
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	May - September
E. coli	% Exceedance	10 Percent	Monthly	Calculated	May - September. See the E. coli Percent Limit section. Enter the result in the DMR on the last day of the month.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	6-Month Avg	0.6 mg/L	3/Week	24-Hr Flow Prop Comp	This is an Adaptive Management interim limit that will go into effect May 1, 2025. An interim limit of 0.5 mg/L may be effective during future permit terms. See schedules and effluent requirements.
Phosphorus, Total		lbs/day	3/Week	Calculated	Calculate the daily mass discharge of phosphorus in lbs/day on the same days phosphorus sampling occurs.
Chloride	Weekly Avg	520 mg/L	4/Month	24-Hr Flow Prop Comp	
Chloride	Monthly Avg	520 mg/L	4/Month	24-Hr Flow Prop Comp	
Chloride, Variable Limit		lbs/day	4/Month	See Table	Look up the chloride mass from the 'Variable Chloride Mass' table and report the variable limit in the Chloride Variable Limit column on the eDMR.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride	Weekly Avg - Variable	lbs/day	4/Month	Calculated	Report the weekly average mass Chloride result in the Chloride column of the eDMR. See Chloride Mass Limit – Non-Wet Weather and Alternative Wet Weather Mass Limit Section.
Temperature Maximum		deg F	Daily	Continuous	Monitoring January - December 2028.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in rotating quarters. See Nitrogen Series Monitoring section. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Chronic WET	Monthly Avg	1.4 TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	

2.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee’s wastewater treatment facility is 0.790 MGD.

2.2.1.2 E. coli Percent Limit

No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 #/100 ml. Bacteria samples may be collected more frequently than required. All samples shall be reported on the monthly discharge monitoring reports (DMRs). The following calculation should be used to calculate percent exceedances.

$$\frac{\text{\# of Samples greater than 410 \#/100 mL}}{\text{Total \# of samples}} \times 100 = \% \text{ Exceedance}$$

2.2.1.3 Total Phosphorus Interim Limit, Averaging Periods and Compliance Determination

The adaptive management total phosphorus interim limit of 0.6 mg/L goes into effect May 01, 2025, beginning the averaging period from May 01, 2025, through October 31, 2025. The averaging periods are May through October and November through April. Compliance with the 6-month average limit is evaluated at the end of each 6-month period on April 30th and October 31st annually.

2.2.1.4 Phosphorus Limitation(s) and Adaptive Management Requirements

Permittee Mount Horeb has requested and the Department has approved a plan to implement a watershed adaptive management approach under s. NR 217.18, Wis. Adm. Code and s. 283.13(7) Wis. Stats. as a means for the

waterbodies listed in the plan to attain the applicable phosphorus water quality standard in s. NR 102.06, Wis. Adm. Code. The phosphorus limitations and conditions in this permit reflect the approved adaptive management plan WQT-2024-0004 (November 2023). Failure to implement terms and conditions of this section is a violation of this permit. The permittee shall design and implement the actions identified in AM Plan No. WQT-2024-0004 (November 2023) in accordance with the goals and measures identified in the approved plan. If total phosphorus loadings within the West Branch of the Sugar River action area, as identified in WQT-2024-0004 (November 2023), are not reduced by at least 285 pounds per year by March 31, 2030, the watershed adaptive management option may not be available to the permittee upon permit reissuance.

Pursuant to s. NR 217.18(3)(e)2, Wis. Adm. Code, the adaptive management interim limitation is 0.6 mg/L, expressed as a six-month average. Additionally, a 1.0 mg/L limitation expressed as a monthly average is required. The final calculated water quality based effluent limitations for phosphorus are a six-month seasonal average limitation of 0.075 mg/l (0.49 lbs/day) and a monthly average limitation of 0.225 mg/l based on current in-stream phosphorus data. These limitations may be recalculated based on changes in the in-stream data at the time of permit reissuance. These limits will become effective at the end of three permit terms unless the adaptive management project is terminated per s. NR 217.18(3)(g), Wis. Adm. Code, in which case the limits may be imposed at an earlier date, or the phosphorus reductions specified in the adaptive management plan have been achieved.

2.2.1.5 Adaptive Management Reopener Clause

Per s. NR 217.18(3)(g), Wis. Adm. Code, the Department may terminate the adaptive management option for a permittee through permit modification or at permit reissuance and require compliance with a phosphorus effluent limitation calculated under s. NR 217.13, Wis. Adm. Code, or a US EPA approved TMDL based on any of the following reasons:

1. Failure to implement the adaptive management actions in accordance with the approved adaptive management plan and compliance schedule established in the permit.
2. New information becomes available that changes the Department's determinations made under s. NR 217.18(2), Wis. Adm. Code.
3. Circumstances beyond the permittee's control have made compliance with the applicable phosphorus criterion in s. NR 102.06, Wis. Adm. Code, pursuant to the plan's goals and measures infeasible.
4. A determination by the Department that sufficient reductions have not been achieved to timely reduce the amount of total phosphorus to meet the criteria in s. NR 102.06, Wis. Adm. Code.

2.2.1.6 Adaptive Management Requirements – Optimization

The permittee shall continue to optimize performance to control phosphorus discharges in accordance with s. NR 217.18(3)(c), Wis Adm. Code.

2.2.1.7 Chloride 4/Month Sampling Frequency

A sample frequency of 4/Month requires that samples be collected on four consecutive days one week each month.

2.2.1.8 Chloride Mass Limit – Non-Wet Weather and Alternative Wet Weather Mass Limit

The parameter Chloride has a mass limit based on weather conditions. The applicable non-wet weather mass limit upon reissuance is 3,400 pounds/day. The applicable wet weather mass limit is 5,500 pounds/day. The permittee will report the applicable mass limit on the Discharge Monitoring Report form in the variable limit column. See Standard Requirements for “Applicability of Alternative Wet Weather Mass Limitations” and “Appropriate Formulas for Effluent Calculations.”

Note: 1000 ug/l = 1 mg/L (divide ug/L by 1000 to convert to mg/L).

Variable Chloride Mass Limitation

Parameter	Weekly Average Mass Limitation	Weekly Average Wet Weather Mass Limitation
Chloride	3,400 lbs/day weekly average	5,500 lbs/day weekly average

2.2.1.9 Effluent Temperature Monitoring

For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13), Wis. Adm. Code. This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. Report the maximum temperature measured during the day on the DMR.

2.2.1.10 Nitrogen Series Monitoring

Monitoring for Total Kjeldahl Nitrogen (TKN), Nitrite + Nitrate Nitrogen, and Total Nitrogen shall be conducted once each year in rotating quarters in order to collect seasonal information about the discharge. Tests are required during the following quarters.

- July – September 2025; January – March 2026; April – June 2027; October – December 2028; July – September 2029

Nitrogen Series monitoring shall continue after the permit expiration date (until the permit is reissued) in accordance with the monitoring requirements specified in the last full calendar year of this permit. For example, the next test would be required in July – September 2030.

Testing: Monitoring shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during testing.

2.2.1.11 Whole Effluent Toxicity (WET) Testing

Primary Control Water: West Branch of the Sugar River

Instream Waste Concentration (IWC): 74%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Chronic tests are required during the following quarters:

- **Chronic:** July – September 2025; January – March 2026; April – June 2027; October – December 2028; July – September 2029

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in July – September 2030.

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box

7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than **1.4** for either species (fathead minnow (*Pimephales promelas*) and waterflea (*Ceriodaphnia dubia*)). The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90-day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

2.2.2 Sampling Point 601 - Sugar River - Downstream and 602- Sugar River - Upstream

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow River		cfs	Monthly	Measure	Provide an estimate of river flow for each day that in-stream phosphorus monitoring is performed May 1 through October 31 annually.
Flow River		cfs	Per Occurrence	Measure	Voluntary river flow estimates for each day that in-stream phosphorus monitoring is performed November 1 through April 30 annually.
Phosphorus, Total		mg/L	Monthly	Grab	Collect samples monthly May 1 through October 31 annually. See permit subsections for sampling and reporting requirements.
Phosphorus, Total		mg/L	Per Occurrence	Grab	Voluntary monitoring November 1 through April 30 annually. See permit subsections for sampling and reporting requirements.
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate and report total monthly phosphorus loads for the months of May through October annually. See permit subsection for calculation of total monthly loads.

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Phosphorus, Total		lbs/month	Per Occurrence	Calculated	Calculated total phosphorus loads may also be reported for the months of November through April, as data is available. See permit subsection for calculation of total monthly loads.

2.2.2.1 Surface Water Sampling for Total Phosphorus

Surface water sampling shall be performed in accordance with Adaptive Management Plan No. WQT-2024-0004 (November 2023). When sampling surface waters for total phosphorus, sample collection and handling protocol as specified in Chapter 4 of the “Guidance for Implementing Wisconsin’s Phosphorus Water Quality Standards for Point Source Discharges” shall be followed. (Available at dnr.wi.gov; search for “phosphorus guidance”).

When testing for total phosphorus in surface water samples, use the test procedures specified by Standard Requirements permit section. Analytical methods used shall enable the laboratory to quantitate total phosphorus at levels below the water quality criterion of 0.075 mg/l. If the required level of quantitation 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.

When surface water samples are collected by Water Action Volunteers, the “The Volunteer Monitor's Guide to Quality Assurance Project Plans” shall be implemented. (Available at www.epa.gov; search for “The Volunteer Monitor's Guide to Quality Assurance Project Plans”).

2.2.2.2 Voluntary Surface Water Sampling for Total Phosphorus

River flow and total phosphorus monitoring may voluntarily be performed from November 1 through April 30 annually. When voluntary in-stream monitoring is completed monitoring results shall be reported on the monthly eDMR. Report river flow measurements for each day phosphorus monitoring is performed.

2.2.2.3 Reporting Surface Water Sampling Results for Total Phosphorus and Flow

The permittee shall report total phosphorus monitoring and river flow measurements results for surface waters samples collected at both Sampling Point 601 and 602 along with the river flow measurements at Sampling Point 601 and 602 on monthly eDMRs. The monitoring results shall be submitted by the date specified on the eDMR.

In addition, all total phosphorus test results for surface water samples collected at Sampling Point 601, 602 and all other surface water sampling points identified in Adaptive Management Plan No. WQT-2024-0004 (November 2023) shall be reported to the Department using the Department’s Laboratory Data Entry System (LDES). Test results for the year shall be submitted by January 21st of the following year. (Available at dnr.wi.gov; search “Laboratory Data Entry System”).

2.2.2.4 Total Monthly Total Phosphorus (TP) Loads

Use the following methods to calculate the total monthly phosphorus loading in the receiving stream expressed as a mass in lbs/month:

- 1) Convert mg/L to lbs/day using the following equation:

$$\text{Daily TP loading (lbs/day)} = \text{TP concentration (mg/L)} \times [\text{Daily Flow (cfs)} \div 1.55] \times 8.34$$

- 2) On a monthly basis, average the reported daily TP loading, then multiply the average by the number of days during the month and report the product as “Phosphorus, Total” (in lbs/month) for the last day of the month on the eDMR.

Phosphorus, Total (lbs/month) = Average of daily TP loading (lbs/day) × Number of days/month

3 Land Application Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
004	Aerobically digested, Thickened, Liquid, Class B. Representative sludge samples shall be collected from the sludge storage tank.

3.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 004 - SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH ₄ -N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Monitoring once in 2026.
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Monitoring once in 2026.
PFOA + PFOS		µg/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

Other Sludge Requirements	
Sludge Requirements	Sample Frequency
List 3 Requirements – Pathogen Control: The requirements in List 3 shall be met prior to land application of sludge.	Annual
List 4 Requirements – Vector Attraction Reduction: The vector attraction reduction shall be satisfied prior to, or at the time of land application as specified in List 4.	Annual

3.2.1.1 List 2 Analysis

If the monitoring frequency for List 2 parameters is more frequent than "Annual" then the sludge may be analyzed for the List 2 parameters just prior to each land application season rather than at the more frequent interval specified.

3.2.1.2 Changes in Feed Sludge Characteristics

If a change in feed sludge characteristics, treatment process, or operational procedures occurs which may result in a significant shift in sludge characteristics, the permittee shall reanalyze the sludge for List 1, 2, 3 and 4 parameters each time such change occurs.

3.2.1.3 Multiple Sludge Sample Points (Outfalls)

If there are multiple sludge sample points (outfalls), but the sludges are not subject to different sludge treatment processes, then a separate List 2 analysis shall be conducted for each sludge type which is land applied, just prior to land application, and the application rate shall be calculated for each sludge type. In this case, List 1, 3, and 4 and PCBs need only be analyzed on a single sludge type, at the specified frequency. If there are multiple sludge sample points (outfalls), due to multiple treatment processes, List 1, 2, 3 and 4 and PCBs shall be analyzed for each sludge type at the specified frequency.

3.2.1.4 Sludge Which Exceeds the High Quality Limit

Cumulative pollutant loading records shall be kept for all bulk land application of sludge which does not meet the high quality limit for any parameter. This requirement applies for the entire calendar year in which any exceedance of Table 3 of s. NR 204.07(5)(c), Wis. Adm. Code is experienced. Such loading records shall be kept for all List 1 parameters for each site land applied in that calendar year. The formula to be used for calculating cumulative loading is as follows:

$$[(\text{Pollutant concentration (mg/kg)} \times \text{dry tons applied/ac}) \div 500] + \text{previous loading (lbs/acre)} = \text{cumulative lbs pollutant per acre}$$

When a site reaches 90% of the allowable cumulative loading for any metal established in Table 2 of s. NR 204.07(5)(b), Wis. Adm. Code the Department shall be so notified through letter or in the comment section of the annual land application report (3400-55).

3.2.1.5 Sludge Analysis for PCBs

The permittee shall analyze the sludge for Total PCBs one time during **2026**. The results shall be reported as "PCB Total Dry Wt". Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with Table EM in s. NR 219.04, Wis. Adm. Code and the conditions specified in Standard Requirements of this permit. PCB results shall be submitted by January 31, following the specified year of analysis.

3.2.1.6 Lists 1, 2, 3, and 4

<p>List 1 TOTAL SOLIDS AND METALS</p> <p>See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters</p>
Solids, Total (percent)
Arsenic, mg/kg (dry weight)
Cadmium, mg/kg (dry weight)
Copper, mg/kg (dry weight)
Lead, mg/kg (dry weight)
Mercury, mg/kg (dry weight)
Molybdenum, mg/kg (dry weight)
Nickel, mg/kg (dry weight)
Selenium, mg/kg (dry weight)
Zinc, mg/kg (dry weight)

<p>List 2 NUTRIENTS</p> <p>See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters</p>
Solids, Total (percent)
Nitrogen Total Kjeldahl (percent)
Nitrogen Ammonium (NH4-N) Total (percent)
Phosphorus Total as P (percent)
Phosphorus, Water Extractable (as percent of Total P)
Potassium Total Recoverable (percent)

List 3

PATHOGEN CONTROL FOR CLASS B SLUDGE

The permittee shall implement pathogen control as listed in List 3. The Department shall be notified of the pathogen control utilized and shall be notified when the permittee decides to utilize alternative pathogen control.

The following requirements shall be met prior to land application of sludge.

Parameter	Unit	Limit
Fecal Coliform *	MPN/gTS or CFU/gTS	2,000,000
OR, ONE OF THE FOLLOWING PROCESS OPTIONS		
Aerobic Digestion		Air Drying
Anaerobic Digestion		Composting
Alkaline Stabilization		PSRP Equivalent Process
* The Fecal Coliform limit shall be reported as the geometric mean of 7 discrete samples on a dry weight basis.		

List 4

VECTOR ATTRACTION REDUCTION

The permittee shall implement any one of the vector attraction reduction options specified in List 4. The Department shall be notified of the option utilized and shall be notified when the permittee decides to utilize an alternative option.

One of the following shall be satisfied prior to, or at the time of land application as specified in List 4.

Option	Limit	Where/When it Shall be Met
Volatile Solids Reduction	≥38%	Across the process
Specific Oxygen Uptake Rate	≤1.5 mg O ₂ /hr/g TS	On aerobic stabilized sludge
Anaerobic bench-scale test	<17 % VS reduction	On anaerobic digested sludge
Aerobic bench-scale test	<15 % VS reduction	On aerobic digested sludge
Aerobic Process	>14 days, Temp >40°C and Avg. Temp > 45°C	On composted sludge
pH adjustment	>12 S.U. (for 2 hours) and >11.5 (for an additional 22 hours)	During the process
Drying without primary solids	>75 % TS	When applied or bagged
Drying with primary solids	>90 % TS	When applied or bagged
Equivalent Process	Approved by the Department	Varies with process
Injection	-	When applied
Incorporation	-	Within 6 hours of application

3.2.1.7 Daily Land Application Log

Daily Land Application Log		
Discharge Monitoring Requirements and Limitations		
The permittee shall maintain a daily land application log for biosolids land applied each day when land application occurs. The following minimum records must be kept, in addition to all analytical results for the biosolids land applied. The log book records shall form the basis for the annual land application report requirements.		
Parameters	Units	Sample Frequency
DNR Site Number(s)	Number	Daily as used
Outfall number applied	Number	Daily as used
Acres applied	Acres	Daily as used
Amount applied	As appropriate * /day	Daily as used
Application rate per acre	unit */acre	Daily as used
Nitrogen applied per acre	lb/acre	Daily as used
Method of Application	Injection, Incorporation, or surface applied	Daily as used

*gallons, cubic yards, dry US Tons or dry Metric Tons

3.2.1.8 Sludge Monitoring for PFAS

Sampling shall occur for perfluoroalkyl and polyfluoroalkyl compounds (PFAS) listed in the table below and as indicated in sampling point sections above. Monitoring shall occur at each sample point when sludge is generated regardless of the end use (i.e. land applied, hauled to another facility, landfilled).

PERFLUOROALKYLCARBOXYLIC Acids (PFCAs)	
PFBA	Perfluorobutanoic acid
PFPeA	Perfluroropentanoic acid
PFHxA	Perfluorohexanoic acid
PFHpA	Perfluoroheptanoic acid
PFOA	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFUnA	Perfluroundecanoic acid
PFDoA	Perfluorododecanoic acid
PFTriA	Perfluorotridecanoic acid
PFTeDA	Perfluorotetradecanoic acid
PERFLUOROALKYLSULFONIC Acids (PFSAs)	
PFBS	Perfluorobutane sulfonic acid
PFPeS	Perfluroropentane sulfonic acid
PFHxS	Perfluorohexane sulfonic acid
PFHpS	Perfluoroheptane sulfonic acid
PFOS	Perfluorooctane sulfonic acid

PFNS	Perfluorononane sulfonic acid
PFDS	Perfluorodecane sulfonic acid
PFDoS	Perfluorododecane sulfonic acid
TELOMER SULFONIC Acids	
4:2 FTSA	4:2 fluorotelomersulfonic acid
6:2 FTSA	6:2 fluorotelomersulfonic acid
8:2 FTSA	8:2 fluorotelomersulfonic acid
PERFLUOROOCANCESULFONAMIDES (FOSAs)	
PFOSA	Perfluorooctane sulfonamide
N-MeFOSA	N-Methyl perfluorooctane sulfonamide
N-EtFOSA	N-Ethyl perfluorooctane sulfonamide
PERFLUOROOCANCESULFONAMIDOACETIC Acids	
N-MeFOSAA	N-Methyl perfluorooctane sulfonamidoacetic acid
N-EtFOSAA	N-Ethyl perfluorooctane sulfonamidoacetic acid
NATIVE PERFLUOROOCANCESULFONAMIDOETHANOLS (FOSEs)	
N-MeFOSE	N-Methyl perfluorooctane sulfonamidoethanol
N-EtFOSE	N-Ethyl perfluorooctane sulfonamidoethanol
PERFLUOROALKYLETHERCARBOXYLIC Acids (PFECAs)	
HFPO-DA	Hexafluoropropylene oxide dimer acid
DONA	4,8-dioxa-3H-perfluorononanoic acid
CHLORO-PERFLUOROALKYLSULFONATE	
F-53B Major	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid
F-53B Minor	11-chloroelcosafluoro-3-oxaundecane-1-sulfonic acid

Note: If WDNR Lab Certification removes a particular compound from the reporting list above and upon receiving written communication from the department, reporting for that compound is no longer required.

3.2.1.9 Sampling and Reporting Sludge Samples for PFAS

Representative sludge samples shall be collected at each sample point as listed. At minimum, liquid sludge storage/digesters should be thoroughly mixed prior to sampling. Cake sludge samples should consist of seven equal size discrete samples and be collected from different areas and depths then composited into one sample for laboratory analysis.

Note: If additional equipment is used for collecting sludge samples (i.e., shovels, compositing buckets, bottles, etc.), then a one-time equipment blank is recommended to be collected with the first sample. An equipment blank sample is collected by passing laboratory verified PFAS-free water over or through field sampling equipment before the collection of a representative sludge sample. The equipment blank result shall be reported on the annual Sludge Characteristics Form (3400-049) in the comment section when reporting PFAS concentrations in the sludge. The permittee shall report each of the PFAS sludge monitoring results on the annual Sludge Characteristics and Monitoring Form (3400-049) as provided by the department. The permittee shall also report the summation of PFOS and PFOA on this same form. All results shall be reported in dry weight. The annual Sludge Characteristics and Monitoring Form (3400-049) are due January 31, of the year following the collection of the sludge samples. The laboratory performing the analysis on any samples shall be certified for the applicable PFAS compounds in the solids matrix by the Wisconsin Laboratory Certification Program established under s. 299.11, Wis. Stats., and in accordance with s. NR 149.41, Wis. Adm. Code. If the EPA Office of Water publishes a 1600 series isotope dilution method for the analysis of PFAS in solids, the department recommends the use of the EPA method. The department

may reject any sample results if results are produced by a laboratory that is not in compliance with certification requirements under ch. NR 149, Wis. Adm. Code.

3.2.1.10 PFAS Land Application Requirements

The department recommends the landspreading and/or land application of sludge be done in a manner consistent with the most recent version of the “Interim Strategy for Land Application of Biosolids and Industrial Sludges containing PFAS”.

4 Schedules

4.1 Watershed Adaptive Management Option Annual Report Submittals

The permittee shall submit annual reports on the implementation of AM Plan No. WQT-2024-0004 (November 2023) as specified in the “Phosphorus Limitation(s) and Adaptive Management Requirements” permit section and the following schedule.

Required Action	Due Date
<p>Annual Adaptive Management Report: Submit an annual adaptive management report. The annual adaptive management report shall:</p> <ul style="list-style-type: none"> o Identify those actions from Section 4.01 of the approved adaptive management plan that were completed during the previous calendar year and those actions that are in progress; o Evaluate collected monitoring data; o Document progress in achieving the goals and measures identified in the approved adaptive management plan; o Describe the outreach and education efforts that occurred during the past calendar year; o Identify any corrections or adjustments to the adaptive management plan that are needed to achieve compliance with the phosphorus water quality standards specified in s. NR 102.06, Wis. Adm. Code; o Describe any updates needed to Mount Horeb’s approved phosphorus optimization plan; <p>and</p> <ul style="list-style-type: none"> o Submit results from all sample points outlined in AM plan No. WQT-2024-0004 (November 2023) to the Department using the Department's Laboratory Data Entry System (LDES) 	03/31/2026
<p>Annual Adaptive Management Report #2: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2027
<p>Annual Adaptive Management Report #3: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2028
<p>Annual Adaptive Management Report #4: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2029
<p>Renewal of Adaptive Management Plan for Permit Reissuance: If the permittee intends to seek renewal of AM plan No. WQT-2024-0004 (November 2023) per s. NR 217.18, Wis. Adm. Code, for the reissued permit term, proposed AM goals and actions based on an updated AM plan shall be submitted to the Department for review and approval. The permittee may propose to adjust load reductions required by AM plan No. WQT-2024-0004 (November 2023) either up or down at the beginning of each WPDES permit term to reflect changes in loads associated with point and non-point sources. This schedule may be modified to incorporate any changes in AM goals and actions, removed if the AM program is terminated per the “Adaptive Management Reopener Clause” permit section, or removed if the adaptive management plan has achieved water quality standards as determined by the Department within the AM action area.</p>	09/30/2029
<p>Final Adaptive Management Report for 1st Permit Term: Submit the final Adaptive Management (AM) report documenting progress made during the first permit term under AM in meeting the watershed phosphorus reduction target of 348 lbs/yr, as well as the anticipated future reductions in phosphorus sources and phosphorus effluent concentrations, which shall be measured in accordance with the AM Plan protocols. The report shall summarize AM activities that have been implemented</p>	01/31/2030

<p>during the current permit term and state which, if any, actions from the approved AM plan No. WQT-2024-0004 (November 2023) were not pursued and why. The report shall include an analysis of trends on both a monthly and six-month average basis for concentrations and mass effluent discharged. Additionally, there shall be an analysis of any improvements to the quality of surface waters in the Adaptive Management Action Area focusing on phosphorus and flow results collected during the permit term. The surface water analysis shall evaluate how the in-stream loadings have changed over the permit term in comparison to implemented AM actions.</p>	
<p>Comply with Adaptive Management Interim Limit: For the second permit term under Adaptive Management the permittee shall comply with an Adaptive Management total phosphorus interim limit no higher than 0.5 mg/L as a 6-month average, in addition to the 1.0 mg/L monthly avg already effective.</p>	04/01/2030
<p>Annual Adaptive Management Report #6: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2031
<p>Annual Adaptive Management Report #7: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2032
<p>Annual Adaptive Management Report #8: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2033
<p>Annual Adaptive Management Report #9: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2034
<p>Renewal of Adaptive Management Plan for Permit Reissuance: If the permittee intends to seek renewal of AM plan No. WQT-2024-0004 (November 2023) per s. NR 217.18, Wis. Adm. Code, for the reissued permit term, proposed AM goals and actions based on an updated AM plan shall be submitted to the Department for review and approval. The permittee may propose to adjust load reductions required by AM plan No. WQT-2024-0004 (November 2023) either up or down at the beginning of each WPDES permit term to reflect changes in loads associated with point and non-point sources. This schedule may be modified to incorporate any changes in AM goals and actions, removed if the AM program is terminated per the “Adaptive Management Reopener Clause” permit section, or removed if the adaptive management plan has achieved water quality standards as determined by the Department within the AM action area.</p>	09/30/2034
<p>Final Adaptive Management Report for 2nd Permit Term: Submit the final Adaptive Management (AM) report documenting progress made during the second permit term under AM in meeting the watershed phosphorus reduction target of 565 lbs/yr, as well as the anticipated future reductions in phosphorus sources and phosphorus effluent concentrations, which shall be measured in accordance with the AM Plan protocols. The report shall summarize AM activities that have been implemented during the current permit term and state which, if any, actions from the approved AM plan No. WQT-2024-0004 (November 2023) were not pursued and why. The report shall include an analysis of trends on both a monthly and six-month average basis for concentrations and mass effluent discharged. Additionally, there shall be an analysis of any improvements to the quality of surface waters in the Adaptive Management Action Area focusing on phosphorus and flow results collected during the permit term. The surface water analysis shall evaluate how the in-stream loadings have changed over the permit term in comparison to implemented AM actions.</p>	01/31/2035
<p>Annual Adaptive Management Report #11: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2036
<p>Annual Adaptive Management Report #12: Submit an Adaptive Management report with the required information described in this section (see above).</p>	03/31/2037

Annual Adaptive Management Report #13: Submit an Adaptive Management report with the required information described in this section (see above).	03/31/2038
Annual Adaptive Management Report #14: Submit an Adaptive Management report with the required information described in this section (see above).	03/31/2039
Final Adaptive Management Report 3rd Permit Term: Submit the final Adaptive Management (AM) report documenting progress made during the third permit term under AM in meeting the watershed phosphorus reduction target of 695 lbs/yr, as well as the anticipated future reductions in phosphorus sources and phosphorus effluent concentrations, which shall be measured in accordance with the AM Plan protocols. The report shall summarize AM activities that have been implemented during the current permit term and state which, if any, actions from the approved AM plan No. WQT-2024-0004 (November 2023) were not pursued and why. The report shall include an analysis of trends on both a monthly and six-month average basis for concentrations and mass effluent discharged. Additionally, for informational purposes, there shall be an analysis of any improvements to the quality of surface waters in the Adaptive Management Action Area focusing on phosphorus and flow results collected during the permit term. The surface water analysis shall evaluate how the in-stream loadings have changed over the permit term in comparison to implemented AM actions.	01/31/2040
Achieve Water Quality Standards and Adaptive Management Plan Success: All the receiving waters identified within the AM plan WQT-2024-0004 (November 2023) shall comply with water quality standards specified in s. NR 102.06, Wis. Adm. Code. The permittee shall continue to comply with applicable effluent limits (required under s. 217.18(3)(e)3. expressed as a 6-month avg and 1.0 mg/L monthly avg) and continue monitoring surface waters per WQT-2024-0004 (November 2023) at a minimum of monthly May through October for total phosphorus.	03/31/2040

4.2 Chloride Source Reduction Measures

The permittee shall comply with the WQBELs for Chloride and perform the following actions.

Required Action	Due Date
Final Chloride Report: Submit a report summarizing the chloride source reduction measures that have been implemented during the current permit term and the success in maintaining effluent quality at or below the current concentrations. The report shall include an analysis of trends in weekly, monthly, and annual average chloride concentrations and total mass discharge of chloride based on chloride sampling and flow data covering the current permit term. The report shall include an analysis of how effluent chloride varies with time and with significant loadings of chloride.	03/31/2030

4.3 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Application Management Plan Submittal: Submit an update to the management plan to optimize the land application system performance and demonstrate compliance with ch. NR 204, Wis. Adm. Code, by the Due Date. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather and odor/nuisance abatement; and 10) include any other pertinent information. Once approved, all landspreading activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to	03/31/2026

implementing the changes.	
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5 Standard Requirements

Chapter NR 205, Wisconsin Administrative Code: The conditions in ss. NR 205.07(1) and NR 205.07(2), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(2), Wis. Adm. Code.

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically 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 pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

5.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code, and completed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sampling shall be performed in accordance with procedures contained in s. NR 140.16, Wis. Adm. Code, and the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96). The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation and/or groundwater standard. 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 this permit.

5.1.3 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.

5.1.4 Reporting of Monitoring Results

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

- 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.
- For purposes of calculating fees under ch. NR 101, Wis. Adm. Code, a reporting limit of 2.0 mg/L for BOD₅ and 2.5 mg/L Total Suspended Solids shall be considered to be limits of quantitation.
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a “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.
- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as “0” (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, “0” would be reported for any day during the month that no discharge occurred.

5.1.5 Compliance Maintenance Annual Reports

Compliance Maintenance Annual Reports (CMAR) shall be completed using information obtained over each calendar year regarding the wastewater conveyance and treatment system. The CMAR shall be submitted and certified by the permittee in accordance with ch. NR 208, Wis. Adm. Code, by June 30, each year on an electronic report form provided by the Department.

In the case of a publicly owned treatment works, a resolution shall be passed by the governing body and submitted as part of the CMAR, verifying its review of the report and providing responses as required. Private owners of wastewater treatment works are not required to pass a resolution; but they must provide an Owner Statement and responses as required, as part of the CMAR submittal.

The CMAR shall be certified electronically 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 pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The certification verifies that the electronic report is true, accurate and complete.

5.1.6 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records 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 permit application information and other documents specified in this permit or s. NR 204.06(9), Wis. Adm. Code shall be retained for a minimum of 5 years.

5.1.7 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

5.1.8 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

5.2 System Operating Requirements

5.2.1 Noncompliance Reporting

Sanitary sewer overflows and sewage treatment facility overflows shall be reported according to the 'Sanitary Sewer Overflows and Sewage Treatment Facility Overflows' section of this permit.

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's regional office 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 under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources 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.**

5.2.2 Flow Meters

Flow meters shall be calibrated annually, as per s. NR 218.06, Wis. Adm. Code.

5.2.3 Raw Grit and Screenings

All raw grit and screenings shall be disposed of at a properly licensed solid waste facility or picked up by a licensed waste hauler. If the facility or hauler are located in Wisconsin, then they shall be licensed under chs. NR 500-555, Wis. Adm. Code.

5.2.4 Sludge Management

All sludge management activities shall be conducted in compliance with ch. NR 204 "Domestic Sewage Sludge Management", Wis. Adm. Code.

5.2.5 Prohibited Wastes

Under no circumstances may the introduction of wastes prohibited by s. NR 211.10, Wis. Adm. Code, be allowed into the waste treatment system. Prohibited wastes include those:

- which create a fire or explosion hazard in the treatment work;
- which will cause corrosive structural damage to the treatment work;
- solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment work;
- wastewaters at a flow rate or pollutant loading which are excessive over relatively short time periods so as to cause a loss of treatment efficiency; and
- changes in discharge volume or composition from contributing industries which overload the treatment works or cause a loss of treatment efficiency.

5.2.6 Bypass

This condition applies only to bypassing at a sewage treatment facility that is not a scheduled bypass, approved blending as a specific condition of this permit, a sewage treatment facility overflow or a controlled diversion as provided in the sections titled 'Scheduled Bypass', 'Blending' (if approved), 'SSO's and Sewage Treatment Facility Overflows' and 'Controlled Diversions' of this permit. Any other bypass at the sewage treatment facility is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. 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 preventive 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.

5.2.7 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for bypassing specified in the above section titled 'Bypass' are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

5.2.8 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. The following requirements shall be met during controlled diversions:

- Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion does not include blending as defined in s. NR 210.03(2e), Wis. Adm. Code, and as may only be approved under s. NR 210.12, Wis. Adm. Code. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

5.2.9 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 this permit. 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.

5.2.10 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

5.3 Sewage Collection Systems

5.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

5.3.1.1 Overflows Prohibited

Any overflow or discharge of wastewater from the sewage collection system or at the sewage treatment facility, other than from permitted outfalls, is prohibited. The permittee shall provide information on whether any of the following conditions existed when an overflow occurred:

- The sanitary sewer overflow or sewage treatment facility overflow was unavoidable to prevent loss of life, personal injury or severe property damage;
- There were no feasible alternatives to the sanitary sewer overflow or sewage treatment facility overflow such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or preventive maintenance activities;
- The sanitary sewer overflow or the sewage treatment facility overflow was caused by unusual or severe weather-related conditions such as large or successive precipitation events, snowmelt, saturated soil

conditions, or severe weather occurring in the area served by the sewage collection system or sewage treatment facility; and

- The sanitary sewer overflow or the sewage treatment facility overflow was unintentional, temporary, and caused by an accident or other factors beyond the reasonable control of the permittee.

5.3.1.2 Permittee Response to Overflows

Whenever a sanitary sewer overflow or sewage treatment facility overflow occurs, the permittee shall take all feasible steps to control or limit the volume of untreated or partially treated wastewater discharged, and terminate the discharge as soon as practicable. Remedial actions, including those in s. NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

5.3.1.3 Permittee Reporting

Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

- The permittee shall notify the department by telephone, fax or email as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the overflow;
- The permittee shall, no later than five days from the time the permittee becomes aware of the overflow, provide to the department the information identified in this paragraph using department form number 3400-184. If an overflow lasts for more than five days, an initial report shall be submitted within 5 days as required in this paragraph and an updated report submitted following cessation of the overflow. At a minimum, the following information shall be included in the report:
 - The date and location of the overflow;
 - The surface water to which the discharge occurred, if any;
 - The duration of the overflow and an estimate of the volume of the overflow;
 - A description of the sewer system or treatment facility component from which the discharge occurred such as manhole, lift station, constructed overflow pipe, or crack or other opening in a pipe;
 - The estimated date and time when the overflow began and stopped or will be stopped;
 - The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture and other relevant information;
 - Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
 - A description of the actual or potential for human exposure and contact with the wastewater from the overflow;
 - Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps;
 - To the extent known at the time of reporting, the number and location of building backups caused by excessive flow or other hydraulic constraints in the sewage collection system that occurred concurrently with the sanitary sewer overflow and that were within the same area of the sewage collection system as the sanitary sewer overflow; and
 - The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available including whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.

NOTE: A copy of form 3400-184 for reporting sanitary sewer overflows and sewage treatment facility overflows may be obtained from the department or accessed on the department's web site at <http://dnr.wi.gov/topic/wastewater/SSOreport.html>. As indicated on the form, additional information may be submitted to supplement the information required by the form.

- The permittee shall identify each specific location and each day on which a sanitary sewer overflow or sewage treatment facility overflow occurs as a discrete sanitary sewer overflow or sewage treatment facility overflow occurrence. An occurrence may be more than one day if the circumstances causing the sanitary sewer overflow or sewage treatment facility overflow results in a discharge duration of greater than 24 hours. If there is a stop and restart of the overflow at the same location within 24 hours and the overflow is caused by the same circumstance, it may be reported as one occurrence. Sanitary sewer overflow occurrences at a specific location that are separated by more than 24 hours shall be reported as separate occurrences; and
- A permittee that is required to submit wastewater discharge monitoring reports under s. NR 205.07 (1) (r), Wis. Adm. Code, shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

5.3.1.4 Public Notification

The permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under the CMOM (Capacity, Management, Operation and Maintenance) section of this permit and s. NR 210.23 (4) (f), Wis. Adm. Code. Such public notification shall occur promptly following any overflow event using the most effective and efficient communications available in the community. At minimum, a daily newspaper of general circulation in the county(s) and municipality whose waters may be affected by the overflow shall be notified by written or electronic communication.

5.3.2 Capacity, Management, Operation and Maintenance (CMOM) Program

- The permittee shall have written documentation of the Capacity, Management, Operation and Maintenance (CMOM) program components in accordance with s. NR 210.23(4), Wis. Adm. Code. Such documentation shall be available for Department review upon request. The Department may request that the permittee provide this documentation or prepare a summary of the permittee's CMOM program at the time of application for reissuance of the WPDES permit.
- The permittee shall implement a CMOM program in accordance with s. NR 210.23, Wis. Adm. Code.
- The permittee shall at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of s. NR 210.23(3), Wis. Adm. Code.

5.3.3 Sewer Cleaning Debris and Materials

All debris and material removed from cleaning sanitary sewers shall be managed to prevent nuisances, run-off, ground infiltration or prohibited discharges.

- Debris and solid waste shall be dewatered, dried and then disposed of at a licensed solid waste facility.
- Liquid waste from the cleaning and dewatering operations shall be collected and disposed of at a permitted wastewater treatment facility.
- Combination waste including liquid waste along with debris and solid waste may be disposed of at a licensed solid waste facility or wastewater treatment facility willing to accept the waste.

5.4 Surface Water Requirements

5.4.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

5.4.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April, except in cases of Water Quality Trading, wherein the applicable periods are January through June and July through December.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

5.4.3 Effluent Temperature Requirements

Weekly Average Temperature – If temperature limits are included in this permit, Weekly Average Temperature shall be calculated as the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock pursuant to Wis. Adm. Code, s. NR 102.28. ‘Cold Shock’ means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state pursuant to Wis. Adm. Code, s. NR 102.29.

5.4.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

5.4.5 Surface Water Uses and Criteria

In accordance with 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.

5.4.6 Percent Removal

During any 30 consecutive days, the average effluent concentrations of BOD₅ and of total suspended solids shall not exceed 15% of the average influent concentrations, respectively. This requirement does not apply to removal of total suspended solids if the permittee operates a lagoon system and has received a variance for suspended solids granted under NR 210.07(2), Wis. Adm. Code.

5.4.7 Chloride Notification

The permittee shall notify the Department in writing of any proposed changes which may affect the characteristics of the wastewater, which results in an increase in the concentration of chloride, under the authority of sections 283.31(4)(b) and 283.59(1), Stats. This notification shall include a description of the proposed source of chlorides and the anticipated increase in concentration. Following receipt of the notification, the Department may propose a modification to the permit.

5.4.8 *E. coli*

The monthly limit for *E. coli* shall be expressed as a geometric mean. In calculating the geometric mean, a value of 1 is used for any result of 0.

5.4.9 Seasonal Disinfection

Disinfection shall be provided from May 1 through September 30 of each year. Monitoring requirements and the limitations for Fecal Coliform (interim) and *E. coli* apply only during the period in which disinfection is required. Whenever chlorine is used for disinfection or other uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used.

5.4.10 Applicability of Alternative Wet Weather Mass Limitations

An alternative wet weather mass limitation applies when:

- The applicable mass limitation (based on annual average design flow) is exceeded; and
- The permittee demonstrates to the satisfaction of the Department that the discharge exceedance is caused by and occurs during a wet weather event. For the purposes of this demonstration, a wet weather event occurs during and immediately following periods of precipitation or snowmelt, including but not limited to rain, sleet, snow, hail or melting snow during which water from the precipitation, snowmelt or elevated groundwater enters the sewerage system through infiltration or inflow, or both. The permittee shall present demonstrations to the Department by attaching them to the Wastewater Discharge Monitoring Report Form(s).

Note: In making this demonstration, the permittee may want to consider presenting a discussion of normal effluent flow rates, the effluent flow rates that resulted in the exceedance and identification of the event, including intensity and duration, which caused the high flow rates. A graph of effluent flow over time may also be helpful.

5.4.11 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition"* (PUB-WT-797, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code. All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

5.4.12 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including the following actions:
 - a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
 - b) Identify the compound(s) causing toxicity. Conduct toxicity screening tests on the effluent at a minimum of once per month for six months to determine if toxicity recurs. Screening tests are WET tests using fewer effluent concentrations conducted on the most sensitive species. If any of the screening tests contain toxicity, conduct a toxicity identification evaluation (TIE) to determine the cause. TIE methods are available from USEPA "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA/600/6-91/005F).
 - c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
 - d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

5.5 Land Application Requirements

5.5.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations

In the event that new federal sewage sludge standards or regulations are promulgated, the permittee shall comply with the new sewage sludge requirements by the dates established in the regulations, if required by federal law, even if the permit has not yet been modified to incorporate the new federal regulations.

5.5.2 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

5.5.3 Sludge Samples

All sludge samples shall be collected at a point and in a manner which will yield sample results which are representative of the sludge being tested, and collected at the time which is appropriate for the specific test.

5.5.4 Land Application Characteristic Report

Each report shall consist of a Characteristic Form 3400-49 and Lab Report. The Characteristic Report Form 3400-49 shall be submitted electronically by January 31 following each year of analysis.

Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page 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 pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report is true, accurate and complete. The Lab Report must be sent directly to the facility's DNR sludge representative or basin engineer unless approval for not submitting the lab reports has been given.

The permittee shall use the following convention when reporting sludge monitoring results: 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 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All results shall be reported on a dry weight basis.

5.5.5 Calculation of Water Extractable Phosphorus

When sludge analysis for Water Extractable Phosphorus is required by this permit, the permittee shall use the following formula to calculate and report Water Extractable Phosphorus:

Water Extractable Phosphorus (% of Total P) =

$$[\text{Water Extractable Phosphorus (mg/kg, dry wt)} \div \text{Total Phosphorus (mg/kg, dry wt)}] \times 100$$

5.5.6 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined using either congener-specific analysis or Aroclor analysis. The permittee may decide which of these analyses is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code:

- If congener-specific analysis is employed: All PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection (LOD) and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported.
- If Aroclor analysis is employed, reporting protocols, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected, then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If the LOD cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference.

5.5.7 Annual Land Application Report

Land Application Report Form 3400-55 shall be submitted electronically by January 31, each year whether or not non-exceptional quality sludge is land applied. Non-exceptional quality sludge is defined in s. NR 204.07(4), Wis. Adm. Code. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page 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 pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

5.5.8 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the ‘eReport Certify’ page 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 pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

5.5.9 Approval to Land Apply

Bulk non-exceptional quality sludge as defined in s. NR 204.07(4), Wis. Adm. Code, may not be applied to land without a written approval letter or Form 3400-122 from the Department unless the Permittee has obtained permission from the Department to self-approve sites in accordance with s. NR 204.06(6), Wis. Adm. Code. Analysis of sludge characteristics is required prior to land application. Application on frozen or snow-covered ground is restricted to the extent specified in s. NR 204.07(3)(1), Wis. Adm. Code.

5.5.10 Soil Analysis Requirements

Each site requested for approval for land application must have the soil tested prior to use. Each approved site used for land application must subsequently be soil tested such that there is at least one valid soil test in the four years prior to land application. All soil sampling and submittal of information to the testing laboratory shall be done in accordance with UW Extension Bulletin A-2100. The testing shall be done by the UW Soils Lab in Madison or Marshfield, WI or at a lab approved by UW. The test results including the crop recommendations shall be submitted to the DNR contact listed for this permit, as they are available. Application rates shall be determined based on the crop nitrogen recommendations and with consideration for other sources of nitrogen applied to the site.

5.5.11 Land Application Site Evaluation

For non-exceptional quality sludge, as defined in s. NR 204.07(4), Wis. Adm. Code, a Land Application Site Request Form 3400-053 shall be submitted to the Department for the proposed land application site. The Department will evaluate the proposed site for acceptability and will either approve or deny use of the proposed site. The permittee may obtain permission to approve their own sites in accordance with s. NR 204.06(6), Wis. Adm. Code.

5.5.12 Class B Sludge: Fecal Coliform Limitation

Compliance with the fecal coliform limitation for Class B sludge shall be demonstrated by calculating the geometric mean of at least 7 separate samples. (Note that a Total Solids analysis must be done on each sample). The geometric mean shall be less than 2,000,000 MPN or CFU/g TS. Calculation of the geometric mean can be done using one of the following 2 methods.

Method 1:

$$\text{Geometric Mean} = (X_1 \times X_2 \times X_3 \dots \times X_n)^{1/n}$$

Where X = Coliform Density value of the sludge sample, and where n = number of samples (at least 7)

Method 2:

$$\text{Geometric Mean} = \text{antilog}[(X_1 + X_2 + X_3 \dots + X_n) \div n]$$

Where X = log₁₀ of Coliform Density value of the sludge sample, and where n = number of samples (at least 7)

Example for Method 2

Sample Number	Coliform Density of Sludge Sample	log ₁₀
1	6.0 x 10 ⁵	5.78

2	4.2×10^6	6.62
3	1.6×10^6	6.20
4	9.0×10^5	5.95
5	4.0×10^5	5.60
6	1.0×10^6	6.00
7	5.1×10^5	5.71

The geometric mean for the seven samples is determined by averaging the \log_{10} values of the coliform density and taking the antilog of that value.

$$(5.78 + 6.62 + 6.20 + 5.95 + 5.60 + 6.00 + 5.71) \div 7 = 5.98$$

$$\text{The antilog of } 5.98 = 9.5 \times 10^5$$

5.5.13 Class B Sludge - Vector Control: Injection

No significant amount of the sewage sludge shall be present on the land surface within one hour after the sludge is injected.

6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report	March 31, 2026	17
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #2	March 31, 2027	17
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #3	March 31, 2028	17
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #4	March 31, 2029	17
Watershed Adaptive Management Option Annual Report Submittals - Renewal of Adaptive Management Plan for Permit Reissuance	September 30, 2029	17
Watershed Adaptive Management Option Annual Report Submittals -Final Adaptive Management Report for 1st Permit Term	January 31, 2030	18
Watershed Adaptive Management Option Annual Report Submittals - Comply with Adaptive Management Interim Limit	April 1, 2030	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #6	March 31, 2031	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #7	March 31, 2032	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #8	March 31, 2033	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #9	March 31, 2034	18
Watershed Adaptive Management Option Annual Report Submittals - Renewal of Adaptive Management Plan for Permit Reissuance	September 30, 2034	18
Watershed Adaptive Management Option Annual Report Submittals -Final Adaptive Management Report for 2nd Permit Term	January 31, 2035	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #11	March 31, 2036	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #12	March 31, 2037	18
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #13	March 31, 2038	19
Watershed Adaptive Management Option Annual Report Submittals - Annual Adaptive Management Report #14	March 31, 2039	19
Watershed Adaptive Management Option Annual Report Submittals -Final Adaptive Management Report 3rd Permit Term	January 31, 2040	19
Watershed Adaptive Management Option Annual Report Submittals - Achieve Water Quality Standards and Adaptive Management Plan Success	March 31, 2040	19

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Chloride Source Reduction Measures -Final Chloride Report	March 31, 2030	19
Land Application Management Plan -Land Application Management Plan Submittal	March 31, 2026	20
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	22
General Sludge Management Form 3400-48	prior to any significant sludge management changes	30
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	31
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land applied	31
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied	32
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	21

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non 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:
South Central Region, 3911 Fish Hatchery Rd, Fitchburg, WI 53711-5397