



WPDES PERMIT

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

City of Waukesha

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
located at
600 Sentry Dr Waukesha WI 53186
To

**Fox (IL) River (Upper Fox (IL) River Watershed, Fox (IL) River Basin) in Waukesha County
and
Root River (Root River Watershed, Root-Pike River Basin) in Milwaukee 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 – August 01, 2025

EXPIRATION DATE – June 30, 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) |
| 702 | INFLUENT: 24-hr flow proportional composite samples shall be collected after screening and grit removal and prior to the addition of recycled flows (i.e. filter backwash, sludge centrate water, sludge thickener supernatant and clarifier drains). |

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 702 - 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 | Daily | 24-Hr Flow Prop Comp | |
| Suspended Solids, Total | | mg/L | Daily | 24-Hr Flow Prop Comp | |
| Mercury, Total Recoverable | | ng/L | Monthly | 24-Hr Flow Prop Comp | See 'Mercury Monitoring' section. |
| Cadmium, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Chromium, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Copper, Total Recoverable | | µg/L | Monthly | 24-Hr Flow Prop Comp | |
| Lead, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nickel, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Zinc, Total Recoverable | | µg/L | Monthly | 24-Hr Flow Prop Comp | |

1.2.1.1 Sample Analysis

Samples shall be analyzed using a method which provides adequate sensitivity so that results can be quantified at a level of quantitation below the calculated/potential effluent limit, unless not possible using the most sensitive approved method.

1.2.1.2 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

1.2.1.3 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2 In-Plant Requirements

2.1 Sampling Point(s)

| Sampling Point Designation | |
|----------------------------|---|
| Sampling Point Number | Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable) |
| 101 | FIELD BLANK: Collect mercury field blank using standard sample handling procedures. |
| 104 | In-Plant Diversion OTHER BYPASS: Sample point for reporting diverted flow which bypasses existing tertiary treatment process of coagulation, flocculation & sedimentation, and granular media filtration prior to ultraviolet disinfection. |
| 105 | LAKE MICHIGAN WATER SUPPLY: A grab sample of raw Lake Michigan water shall be collected from the water supply facility, prior to receiving any treatment. |

2.2 Monitoring Requirements and Limitations

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

2.2.1 Sampling Point 101 - FIELD BLANK

| Monitoring Requirements and Limitations | | | | | |
|---|------------|-----------------|------------------|-------------|-----------------------------------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Mercury, Total Recoverable | | ng/L | Monthly | Blank | See 'Mercury Monitoring' section. |

2.2.1.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2.2.2 Sampling Point 104 - InPlant Diversion-Other Bypass

| Monitoring Requirements and Limitations | | | | | |
|---|------------|-----------------|------------------|-------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Flow Rate | | MGD | Per Occurrence | Continuous | Start flow measurement at the commencement of bypass operations. Measure flow in daily increments until operation ends and report daily bypass flow on the eDMR. See 'Other Bypass Requirements' permit section. |

| | | | | | |
|------|--|-------|----------------|------------|--|
| Time | | hours | Per Occurrence | Calculated | Report the total duration of 'Other Bypass' within any given day (12:00am - 11:59pm) in which the 'Other Bypass' occurs. See 'Other Bypass Requirements' permit section. |
|------|--|-------|----------------|------------|--|

2.2.2.1 Other Bypass Requirements

The Department has determined that an 'other bypass' as defined in s. NR 205.07(1)(u)3., Wis. Adm. Code, may occur at this sewage treatment facility. Furthermore, the Department has previously approved plans in accordance with s. 281.41, Wis. Stats., for the partial bypass around the tertiary treatment process prior to disinfection. A bypass that is defined as a controlled diversion in s. NR 205.07(1)(v), Wis. Adm. Code, is not covered under this sample point. The following requirements shall apply whenever the 'other bypass' operations are in effect:

- The 'other bypass' may only operate during wet weather or other high flow conditions when peak wastewater flow to the sewage treatment facility exceeds the maximum design and operating capacity of the tertiary treatment facilities and when necessary to avoid severe property damage to the sewage treatment facility as described in s. NR 205.07(1)(u)3.a., Wis. Adm. Code. The 'other bypass' may only divert flow around the tertiary treatment process described under the In-Plant Diversion OTHER BYPASS Sample Point description above. In no case shall this include flow diversion which would constitute blending, as defined in s. NR 210.03(2e), Wis. Adm. Code, unless otherwise approved in this permit;
- All flow, inclusive of that wastewater treated or not treated by the tertiary treatment process, shall be disinfected, if required by this permit, prior to discharge, and the flows shall be recombined prior to discharge;
- Effluent from the sewage treatment facility shall be monitored to include all wastewater that is discharged from the facility, including those wastewaters that are diverted around tertiary treatment process and shall meet the effluent limitations for Outfalls 001 and 006 included in this permit;
- Bypassing under this section and the circumstances that lead to the 'other bypass' shall be reported to the Department on the permittee's Discharge Monitoring Report (DMR), and shall include the time, duration, and volume of wastewater routed around the tertiary treatment process.

2.2.3 Sampling Point 105 - Lake Michigan Water Supply

| Monitoring Requirements and Limitations | | | | | |
|---|------------|-----------------|------------------|-------------|---|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Flow Rate | | MG | Monthly | Calculated | Report the sum of the total monthly intake flows. |
| Mercury, Total Recoverable | | ng/L | Monthly | Grab | See 'Mercury Monitoring' section. |
| Mercury, Total Recoverable | | grams/mo | Monthly | Calculated | See 'Mercury Mass Calculation' section. |
| Mercury, Total Recoverable | | grams/yr | Annual | Calculated | Report the sum of the total monthly intake mass loading for the calendar year on the Annual report. |

2.2.3.1 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wisconsin Administrative Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

2.2.3.2 Mercury Mass Calculation

For calculating the monthly mercury mass in grams/month for Outfall 006 the permittee shall multiply the measured mercury concentration in nanograms/liter by the total monthly flow by the conversion factor, 0.00378. The annual mercury mass shall be the summation of the monthly calculated masses over the calendar year and reported on the Annual Report form.

3 Surface Water Requirements

3.1 Sampling Point(s)

| Sampling Point Designation | |
|----------------------------|---|
| Sampling Point Number | Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable) |
| 001 | EFFLUENT: 24-Hr flow proportional composite samples shall be collected from the effluent chamber after the UV disinfection system but before the Parshall flume. Grab samples shall be collected immediately after post aeration and before the Parshall flume. |
| 006 | EFFLUENT: Sampling shall be the same as Outfall 001 except monitoring for dissolved oxygen, temperature, and additional pH shall be conducted at the outfall to the Root River after aeration. Flow is monitored at the treatment plant. |

3.2 Monitoring Requirements and Effluent Limitations

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

3.2.1 Sampling Point (Outfall) 001 - EFFLUENT - Fox River

| Monitoring Requirements and Effluent Limitations | | | | | |
|--|--------------------------|-----------------|------------------|----------------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Flow Rate | | MGD | Daily | Calculated | Flow rate calculated by subtracting the flow from 006 meter from the total plant flow meter. |
| BOD ₅ , Total | Weekly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November through April each year. |
| BOD ₅ , Total | Weekly Avg | 7.9 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May through October each year. |
| BOD ₅ , Total | Monthly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November through April each year. |
| BOD ₅ , Total | Monthly Avg | 7.9 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May through October each year. |
| BOD ₅ , Total | Weekly Avg | 310 lbs/day | Daily | Calculated | |
| Suspended Solids, Total | Weekly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | |
| Suspended Solids, Total | Monthly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | |
| pH Field | Daily Max | 9.0 su | Daily | Grab | |
| pH Field | Daily Min | 6.0 su | Daily | Grab | |
| E. coli | Geometric Mean - Monthly | 126 #/100 ml | 3/Week | Grab | Limit effective May through September each year. |

| Monitoring Requirements and Effluent Limitations | | | | | |
|--|--------------|-----------------|------------------|----------------------|---|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| E. coli | % Exceedance | 10 Percent | Monthly | Calculated | Limit effective May through September each year. See the 'E. coli Percent Limit' section in permit below. Enter the result in the DMR on the last day of the month. |
| Dissolved Oxygen | Daily Min | 7.0 mg/L | Daily | Grab | |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 17 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November through April each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective April each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 8.5 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 5.6 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective June each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 3.9 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective July each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 4.2 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective August each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 5.8 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective September each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 9.2 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective October each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 12 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November & February each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 11 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective December & January each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 13 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective March each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.6 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective April each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 4.9 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May & December each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 3.1 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective June each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 2.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective July each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 2.1 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective August each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 2.9 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective September each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 4.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective October each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.1 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November each year. |

| Monitoring Requirements and Effluent Limitations | | | | | |
|---|-------------------|------------------------|-------------------------|----------------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective January each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.2 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective February each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 6.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective March each year. |
| Phosphorus, Total | Monthly Avg | 0.225 mg/L | Daily | 24-Hr Flow Prop Comp | |
| Phosphorus, Total | 6-Month Avg | 0.075 mg/L | Daily | 24-Hr Flow Prop Comp | |
| Phosphorus, Total | 6-Month Avg | 2.94 lbs/day | Daily | Calculated | |
| Chloride | Weekly Avg | 620 mg/L | 4/Month | 24-Hr Flow Prop Comp | This is an interim limit effective December 2025 through April 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride | Weekly Avg | 570 mg/L | 4/Month | 24-Hr Flow Prop Comp | This is an interim limit effective immediately and through November 2025, and effective again May through October 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride | Weekly Avg | 470 mg/L | 4/Month | 24-Hr Flow Prop Comp | Limit effective beginning November 1, 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride | Monthly Avg | 470 mg/L | 4/Month | 24-Hr Flow Prop Comp | Limit effective beginning November 1, 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride, Variable Limit | | lbs/day | 4/Month | See Table | Beginning November 1, 2026, 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. Limit effective November 1, 2026. See 'Chloride Mass Limit – Non-Wet Weather and Alternative Wet Weather Mass Limit' section in permit below. |
| Nitrogen, Total Kjeldahl | | mg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nitrogen, Nitrite + Nitrate Total | | mg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nitrogen, Total | | mg/L | Quarterly | Calculated | Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen. |
| Cadmium, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Chromium, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Copper, Total Recoverable | | µg/L | Monthly | 24-Hr Flow Prop Comp | |
| Lead, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nickel, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Zinc, Total Recoverable | | µg/L | Monthly | 24-Hr Flow Prop Comp | |
| Mercury, Total Recoverable | | ng/L | Monthly | 24-Hr Flow Prop Comp | See 'Mercury Monitoring' section in permit. |
| PFOS | | ng/L | Monthly | Grab | See 'PFOS/PFOA Minimization Plan Determination of Need' schedule in permit. |
| PFOA | | ng/L | Monthly | Grab | See 'PFOS/PFOA Minimization Plan Determination of Need' schedule in permit. |
| Acute WET | | TU _a | See Listed Qtr(s) | 24-Hr Flow Prop Comp | See WET section below. |
| Chronic WET | Monthly Avg | 1.5 TU _c | See Listed Qtr(s) | 24-Hr Flow Prop Comp | See WET section below. |

| Monitoring Requirements and Effluent Limitations | | | | | |
|--|------------|-----------------|------------------|-------------|-----------------------------------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Temperature Maximum | | deg F | Daily | Continuous | Monitoring in calendar year 2028. |

3.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee's wastewater treatment facility is 14.0 MGD. The average annual design flow for the Root River return flow system is (Outfall 006) is 9.3 MGD.

3.2.1.2 *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.

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

3.2.1.3 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

3.2.1.4 Sample Analysis

Samples shall be analyzed using a method which provides adequate sensitivity so that results can be quantified at a level of quantitation below the calculated/potential effluent limit, unless not possible using the most sensitive approved method.

3.2.1.5 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wis. Adm. Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.1.6 Effluent Temperature Monitoring

For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

3.2.1.7 PFOS/PFOA Sampling and Reporting Requirements

For grab samples, as defined per s. NR 218.04(10), Wis. Adm. Code, a single sample at a location as defined by the sample point description shall be taken during the time of the day most representative to capture all potential discharges. If extra equipment besides the sample bottle is used to collect the sample, it is recommended that a one-time equipment blank is collected with the first sample. An equipment blank would be collected by passing laboratory-verified PFAS-free water over or through field sampling equipment before the collection of a grab sample to evaluate potential contamination from the equipment used during sample.

If any equipment blanks are performed, these results shall be reported in the comments section of the eDMR and shall also be documented in the reports submitted as part of the PFOS/PFOA Minimization Plan Determination of Need schedule of the permit.

3.2.1.8 PFOS/PFOA Minimization Plan Determination of Need

The permittee shall monitor PFOS and PFOA as specified in the table above and report on the effluent concentrations including trends in monthly and annual average PFOS and PFOA concentrations as specified in the PFOS/PFOA Minimization Plan Determination of Need Schedule.

If, after reviewing the data, the Department determines that a minimization plan for PFOS and PFOA is necessary based on the procedures in s. NR 106.98(4), Wis. Adm. Code, the Department will notify the permittee in writing that a PFOS and PFOA minimization plan that satisfies the requirements in s. NR 106.99, Wis. Adm. Code, is required. The permittee shall submit an initial plan for Department approval no later than 90 days after written notification was sent from the Department in accordance with s. NR 106.985(2)(a), Wis. Adm. Code. Pursuant to s. NR 106.985(2)(b), Wis. Adm. Code, as soon as possible after Department approval of the PFOS and PFOA minimization plan, the Department will modify or revoke and reissue the permit in accordance with public notice procedures under ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code, to include the PFOS and PFOA minimization plan and other related terms and condition.

If, however, the Department determines that a PFOS and PFOA minimization plan is unnecessary based on the procedures in s. NR 106.98(4), Wis. Adm. Code, the Department shall notify the permittee that no further action is required. Per s. NR 106.98(3)(a), Wis. Adm. Code, the Department may reduce monitoring frequency to once every 3 months (quarterly) on a case-by-case basis, but only after at least 12 representative results have been generated. If the permittee requests a reduction in monitoring and the Department agrees a reduction would be appropriate, the permit may be modified in accordance with public notice procedures under ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code, to incorporate this change.

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

This permit contains a chloride mass limit based on weather conditions. The applicable non-wet weather mass limit is **18,400 pounds/day**. The applicable wet weather mass limit is **75,700 pounds/day**. 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”.

Variable Chloride Mass Limitation

| Parameter | Weekly Average Mass Limitation | Weekly Average Wet Weather Mass Limitation |
|-----------|--------------------------------|--|
| Chloride | 18,400 lbs/day | 75,700 lbs/day |

3.2.1.10 Whole Effluent Toxicity (WET) Testing

Primary Control Water: The Fox (IL) River upstream and outside of the mixing zone of the discharge or any other known discharges.

Instream Waste Concentration (IWC): 68%

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

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests are required during the following quarters:

- **Acute:** July – September 2026, April – June 2027, October – December 2028, January – March 2029, and April – June 2030

Acute 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 January - March 2031.

Chronic tests are required during the following quarters:

- **Chronic:** July – September 2026, April – June 2027, October – December 2028, January – March 2029, and April – June 2030

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 January - March 2031.

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: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species (fathead minnow (*Pimephales promelas*) and waterflea (*Ceriodaphnia dubia*)). The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 1.1 for either species. 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).

3.2.2 Sampling Point (Outfall) 006 - EFFLUENT - Root River

| 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 | 10 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November through April each year. |
| BOD ₅ , Total | Weekly Avg | 5.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May through October each year. |
| BOD ₅ , Total | Monthly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November through April each year. |
| BOD ₅ , Total | Monthly Avg | 5.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May through October each year. |
| Suspended Solids, Total | Weekly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | |

| Monitoring Requirements and Effluent Limitations | | | | | |
|--|--------------------------|-----------------|------------------|----------------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Suspended Solids, Total | Monthly Avg | 10 mg/L | Daily | 24-Hr Flow Prop Comp | |
| pH Field | Daily Max | 9.0 su | Daily | Grab | |
| pH Field | Daily Min | 6.0 su | Daily | Grab | |
| E. coli | Geometric Mean - Monthly | 126 #/100 ml | Weekly | Grab | Limit effective May through September each year. Limit becomes effective year-round per the 'Effluent Limitations for E. coli' schedule in permit. |
| E. coli | % Exceedance | 10 Percent | Monthly | Calculated | Limit effective May through September each year. Limit becomes effective year-round per the 'Effluent Limitations for E. coli' schedule in permit. See the 'E. coli Percent Limit' section in permit below. Enter the result in the DMR on the last day of the m |
| Dissolved Oxygen | Daily Min | 7.0 mg/L | Daily | Grab | |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 16 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective April each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 14 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 11 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective June & November through February each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 10 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective July each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 9.9 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective August & October each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 9.5 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective September each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Daily Max | 13 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective March each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 5.8 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective April each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 5.7 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 4.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective June each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 3.3 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective July each year. |

| Monitoring Requirements and Effluent Limitations | | | | | |
|---|-------------------|------------------------|-------------------------|----------------------|---|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 3.5 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective August each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 4.2 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective September each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 6.7 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective October each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 9.7 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 9.8 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective December each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 11 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective January & February each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 13 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective March each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 2.4 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective April each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 2.5 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective May each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 1.8 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective June & September each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 1.4 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective July each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 1.5 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective August each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 2.8 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective October each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 4.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective November & December each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.0 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective January each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.1 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective February each year. |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 5.5 mg/L | Daily | 24-Hr Flow Prop Comp | Limit effective March each year. |
| Phosphorus, Total | Monthly Avg | 0.18 mg/L | Daily | 24-Hr Flow Prop Comp | |
| Phosphorus, Total | 6-Month Avg | 0.06 mg/L | Daily | 24-Hr Flow Prop Comp | |
| Phosphorus, Total | 6-Month Avg | 4.65 lbs/day | Daily | Calculated | |
| Chloride | Weekly Avg | 620 mg/L | 4/Month | 24-Hr Flow Prop Comp | This is an interim limit effective December 2025 through April 2026. See 'Chloride WQBELs Compliance' schedule in permit. |

| Monitoring Requirements and Effluent Limitations | | | | | |
|---|-----------------------|------------------------|-------------------------|----------------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Chloride | Weekly Avg | 570 mg/L | 4/Month | 24-Hr Flow Prop Comp | This is an interim limit effective immediately and through November 2025, and effective again May through October 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride | Weekly Avg | 400 mg/L | 4/Month | 24-Hr Flow Prop Comp | Limit effective beginning November 1, 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride | Monthly Avg | 400 mg/L | 4/Month | 24-Hr Flow Prop Comp | Limit effective beginning November 1, 2026. See 'Chloride WQBELs Compliance' schedule in permit. |
| Chloride, Variable Limit | | lbs/day | 4/Month | See Table | Beginning November 1, 2026, 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. |
| Chloride | Weekly Avg - Variable | lbs/day | 4/Month | Calculated | Report the weekly average mass Chloride result in the Chloride column of the eDMR. Limit effective November 1, 2026. See 'Chloride Mass Limit – Non-Wet Weather and Alternative Wet Weather Mass Limit' section in permit below. |
| Nitrogen, Total Kjeldahl | | mg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nitrogen, Nitrite + Nitrate Total | | mg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nitrogen, Total | | mg/L | Quarterly | Calculated | Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen. |

| Monitoring Requirements and Effluent Limitations | | | | | |
|--|------------|-----------------|-------------------|----------------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Cadmium, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Chromium, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Copper, Total Recoverable | | µg/L | Monthly | 24-Hr Flow Prop Comp | |
| Lead, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Nickel, Total Recoverable | | µg/L | Quarterly | 24-Hr Flow Prop Comp | |
| Zinc, Total Recoverable | | µg/L | Monthly | 24-Hr Flow Prop Comp | |
| Mercury, Total Recoverable | | ng/L | Monthly | 24-Hr Flow Prop Comp | See 'Mercury Monitoring' section in permit. |
| Mercury, Total Recoverable | | grams/month | Monthly | Calculated | See 'Mercury Mass Calculation' section in permit. |
| Mercury, Total Recoverable | | grams/yr | Annual | Calculated | See 'Mercury Mass Calculation' section in permit. |
| PFOS | | ng/L | Monthly | Grab | Monitoring only. See 'PFOS/PFOA Minimization Plan Determination of Need' schedule in permit. |
| PFOA | | ng/L | Monthly | Grab | Monitoring only. See 'PFOS/PFOA Minimization Plan Determination of Need' schedule in permit. |
| Acute WET | | TU _a | See Listed Qtr(s) | 24-Hr Flow Prop Comp | See WET section below. |
| Chronic WET | | TU _c | See Listed Qtr(s) | 24-Hr Flow Prop Comp | See WET section below. |
| Temperature Maximum | | deg F | Daily | Continuous | Monitoring in calendar year 2028. |

3.2.2.1 *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.

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

3.2.2.2 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

3.2.2.3 Sample Analysis

Samples shall be analyzed using a method which provides adequate sensitivity so that results can be quantified at a level of quantitation below the calculated/potential effluent limit, unless not possible using the most sensitive approved method.

3.2.2.4 Mercury Monitoring

The permittee shall collect and analyze all mercury samples according to the data quality requirements of ss. NR 106.145(9) and (10), Wis. Adm. Code. The limit of quantitation (LOQ) used for the effluent and field blank shall be less than 1.3 ng/L, unless the samples are quantified at levels above 1.3 ng/L. The permittee shall collect at least one mercury field blank for each set of mercury samples (a set of samples may include combinations of intake, influent, effluent or other samples all collected on the same day). The permittee shall report results of samples and field blanks to the Department on Discharge Monitoring Reports.

3.2.2.5 Mercury Mass Calculation

For calculating the monthly mercury mass in grams/month for Outfall 006 the permittee shall multiply the measured mercury concentration in nanograms/liter by the total monthly flow by the conversion factor, 0.00378. The annual mercury mass shall be the summation of the monthly calculated masses over the calendar year and reported on the Annual Report form.

3.2.2.6 Effluent Temperature Monitoring

For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

3.2.2.7 PFOS/PFOA Sampling and Reporting Requirements

For grab samples, as defined per s. NR 218.04(10), Wis. Adm. Code, a single sample at a location as defined by the sample point description shall be taken during the time of the day most representative to capture all potential discharges. If extra equipment besides the sample bottle is used to collect the sample, it is recommended that a one-time equipment blank is collected with the first sample. An equipment blank would be collected by passing laboratory-verified PFAS-free water over or through field sampling equipment before the collection of a grab sample to evaluate potential contamination from the equipment used during sample.

If any equipment blanks are performed, these results shall be reported in the comments section of the eDMR and shall also be documented in the reports submitted as part of the PFOS/PFOA Minimization Plan Determination of Need schedule of the permit.

3.2.2.8 PFOS/PFOA Minimization Plan Determination of Need

The permittee shall monitor PFOS and PFOA as specified in the table above and report on the effluent concentrations including trends in monthly and annual average PFOS and PFOA concentrations as specified in the PFOS/PFOA Minimization Plan Determination of Need Schedule.

If, after reviewing the data, the Department determines that a minimization plan for PFOS and PFOA is necessary based on the procedures in s. NR 106.98(4), Wis. Adm. Code, the Department will notify the permittee in writing that a PFOS and PFOA minimization plan that satisfies the requirements in s. NR 106.99, Wis. Adm. Code, is required. The permittee shall submit an initial plan for Department approval no later than 90 days after written notification was sent from the Department in accordance with s. NR 106.985(2)(a), Wis. Adm. Code. Pursuant to s. NR 106.985(2)(b), Wis. Adm. Code, as soon as possible after Department approval of the PFOS and PFOA minimization plan, the

Department will modify or revoke and reissue the permit in accordance with public notice procedures under ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code, to include the PFOS and PFOA minimization plan and other related terms and condition.

If, however, the Department determines that a PFOS and PFOA minimization plan is unnecessary based on the procedures in s. NR 106.98(4), Wis. Adm. Code, the Department shall notify the permittee that no further action is required. Per s. NR 106.98(3)(a), Wis. Adm. Code, the Department may reduce monitoring frequency to once every 3 months (quarterly) on a case-by-case basis, but only after at least 12 representative results have been generated. If the permittee requests a reduction in monitoring and the Department agrees a reduction would be appropriate, the permit may be modified in accordance with public notice procedures under ch. 283, Wis. Stats., and ch. NR 203, Wis. Adm. Code, to incorporate this change.

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

This permit contains a chloride mass limit based on weather conditions. The applicable non-wet weather mass limit is **31,000 pounds/day**. The applicable wet weather mass limit is **64,400 pounds/day**. 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”.

Variable Chloride Mass Limitation

| Parameter | Weekly Average Mass Limitation | Weekly Average Wet Weather Mass Limitation |
|-----------|--------------------------------|--|
| Chloride | 31,000 lbs/day | 64,400 lbs/day |

3.2.2.10 Whole Effluent Toxicity (WET) Testing

Primary Control Water: The Root River upstream and outside of the mixing zone of the discharge or any other known discharges.

Instream Waste Concentration (IWC): 96%

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

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Acute tests are required during the following quarters:

- **Acute:** July – September 2026, April – June 2027, October – December 2028, January – March 2029, and April – June 2030

Acute 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 April – June 2031.

Chronic tests are required during the following quarters:

- **Chronic:** July – September 2026, April – June 2027, October – December 2028, January – March 2029, and April – June 2030

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 April – June 2031.

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: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species (fathead minnow (*Pimephales promelas*) and waterflea (*Ceriodaphnia dubia*)). The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 1.0 for either species. 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).

4 Land Application Requirements

4.1 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) |
| 002 | Class B, anaerobically digested, centrifuge thickened, cake sludge. Representative samples shall be collected and composited from the centrifuge and sludge storage bays prior to land application. |
| 005 | Class B, anaerobically digested, liquid sludge. Representative samples shall be collected from the sludge storage tank recirculation pump. This outfall is included as an emergency outfall and the facility will need to notify the Department if this outfall needs to be used. Sampling is required annually during the calendar year only if discharge from this outfall occurs. |

4.2 Monitoring Requirements and Limitations

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

4.2.1 Sampling Point (Outfall) 002 - Cake Sludge

| Monitoring Requirements and Limitations | | | | | |
|---|--------------|-----------------|------------------|-------------|-------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Solids, Total | | Percent | Quarterly | Composite | |
| Arsenic Dry Wt | Ceiling | 75 mg/kg | Quarterly | Composite | |
| Arsenic Dry Wt | High Quality | 41 mg/kg | Quarterly | Composite | |
| Cadmium Dry Wt | Ceiling | 85 mg/kg | Quarterly | Composite | |
| Cadmium Dry Wt | High Quality | 39 mg/kg | Quarterly | Composite | |
| Copper Dry Wt | Ceiling | 4,300 mg/kg | Quarterly | Composite | |
| Copper Dry Wt | High Quality | 1,500 mg/kg | Quarterly | Composite | |
| Lead Dry Wt | Ceiling | 840 mg/kg | Quarterly | Composite | |
| Lead Dry Wt | High Quality | 300 mg/kg | Quarterly | Composite | |
| Mercury Dry Wt | Ceiling | 57 mg/kg | Quarterly | Composite | |
| Mercury Dry Wt | High Quality | 17 mg/kg | Quarterly | Composite | |
| Molybdenum Dry Wt | Ceiling | 75 mg/kg | Quarterly | Composite | |
| Nickel Dry Wt | Ceiling | 420 mg/kg | Quarterly | Composite | |

| Monitoring Requirements and Limitations | | | | | |
|---|--------------|-----------------|------------------|-------------|--|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Nickel Dry Wt | High Quality | 420 mg/kg | Quarterly | Composite | |
| Selenium Dry Wt | Ceiling | 100 mg/kg | Quarterly | Composite | |
| Selenium Dry Wt | High Quality | 100 mg/kg | Quarterly | Composite | |
| Zinc Dry Wt | Ceiling | 7,500 mg/kg | Quarterly | Composite | |
| Zinc Dry Wt | High Quality | 2,800 mg/kg | Quarterly | Composite | |
| PCB Total Dry Wt | Ceiling | 50 mg/kg | Once | Composite | Monitor once in calendar year 2026. |
| PCB Total Dry Wt | High Quality | 10 mg/kg | Once | Composite | Monitor once in calendar year 2026. |
| Radium 226 Dry Wt | | pCi/g | Quarterly | Composite | |
| Nitrogen, Total Kjeldahl | | Percent | Quarterly | Composite | |
| Nitrogen, Ammonium (NH ₄ -N) Total | | Percent | Quarterly | Composite | |
| Phosphorus, Total | | Percent | Quarterly | Composite | |
| Phosphorus, Water Extractable | | % of Tot P | Quarterly | Composite | |
| Potassium, Total Recoverable | | Percent | Quarterly | Composite | |
| 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. | Quarterly |
| 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. | Quarterly |

4.2.1.1 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.

4.2.1.2 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.

4.2.1.3 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.

4.2.1.4 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).

4.2.1.5 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.

4.2.1.6 Lists 1, 2, 3, and 4

| List 1 TOTAL SOLIDS AND METALS See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters | | |
|---|--|--|
| 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) | | |
| Radium-226, pCi/g (dry weight) | | |

| List 2 NUTRIENTS See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters | | |
|---|--|--|
| Solids, Total (percent) | | |
| Nitrogen Total Kjeldahl (percent) | | |
| Nitrogen Ammonium (NH ₄ -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 |

4.2.1.7 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

4.2.1.8 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 | Perfluroroundecanoic acid |
| PFDoA | Perfluorododecanoic acid |
| PFTTrDA | 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 | |
| 4:2FTSA | <i>1H,1H,2H,2H</i> -Perfluorohexane sulfonic acid |
| 6:2FTSA | <i>1H,1H,2H,2H</i> -Perfluorooctane sulfonic acid |
| 8:2FTSA | <i>1H,1H,2H,2H</i> -Perfluorodecane sulfonic acid |
| PERFLUOROOCTANCESULFONAMIDES (FOSAs) | |
| PFOSA | Perflurorooctane sulfonamide |
| NMeFOSA | N-Methyl perfluorooctane sulfonamide |
| NEtFOSA | N-Ethyl perfluorooctane sulfonamide |
| PERFLUOROOCTANCESULFONAMIDOACETIC Acids | |
| NMeFOSAA | N-Methyl perfluorooctane sulfonamidoacetic acid |
| NEtFOSAA | N-Ethyl perfluorooctane sulfonamidoacetic acid |
| NATIVE PERFLUOROOCTANCESULFONAMIDOETHANOLS (FOSEs) | |
| NMeFOSE | N-Methyl perfluorooctane sulfonamidoethanol |
| NEtFOSE | N-Ethyl perfluorooctane sulfonamidoethanol |
| PERFLUOROALKYLETHERCARBOXYLIC Acids (PFECAs) | |
| HFPO-DA | Hexafluoropropylene oxide dimer acid |

| | |
|---------------------------------------|--|
| ADONA | 4,8-dioxa-3 <i>H</i> -perfluorononanoic acid |
| PFMPA | Perfluoro-3-methoxypropanoic acid |
| PFMBA | Perfluoro-4-methoxybutanoic acid |
| NFDHA | Nonafluoro-3,6-dioxaheptaioic acid |
| CHLORO-PERFLUOROALKYLSULFONATE | |
| 9Cl-PF3ONS | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid |
| 11Cl-PF3OUdS | 11-chloroelcosafluoro-3-oxaundecane-1-sulfonic acid |
| PFEESA | Perfluoro(2-ethoxyethane)sulfonic acid |
| TELOMER SULFONIC Acids | |
| 3:3FTCA | 3-Perfluoropropyl propanoic acid |
| 5:3FTCA | 2 <i>H</i> ,2 <i>H</i> ,3 <i>H</i> ,3 <i>H</i> -Perfluorooctanoic acid |
| 7:3FTCA | 3-Perfluoroheptyl propanoic 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.

4.2.1.9 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. 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.

4.2.1.10 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”](#).

4.2.2 Sampling Point (Outfall) 005 - Liquid 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 | |
| Potassium, Total Recoverable | | Percent | Annual | Composite | |

| 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 |

4.2.2.1 Sample Frequency and Analytical Requirements when Sludge is Landfilled or Hauled to Another Facility

The permittee is not required to analyze for Total Kjeldahl Nitrogen, Ammonium, Total Phosphorus, Water Extractable Phosphorus, Total Recoverable Potassium, pathogens, and vector attraction parameters unless land application of sludge is initiated. As long as landfilling or hauling to another permitted facility are the sole disposal methods, only List 1 analysis is required prior to disposition. The metals limits in the table above do not apply to landfilled sludge. If sludge is land applied the sample frequency may increase based on the amount of sludge generated in accordance with Table A in s. NR 204.06, Wis. Adm. Code, and all limits and monitoring requirements listed in the table apply.

4.2.2.2 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.

4.2.2.3 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.

4.2.2.4 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).

4.2.2.5 Lists 1, 2, 3, and 4

| List 1 TOTAL SOLIDS AND METALS See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters | |
|---|--|
| 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) | |
| Radium-226, pCi/g (dry weight) | |

| List 2 NUTRIENTS See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters | |
|---|--|
| Solids, Total (percent) | |
| Nitrogen Total Kjeldahl (percent) | |
| Nitrogen Ammonium (NH ₄ -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 |

4.2.2.6 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

5 Schedules

5.1 Dissipative Cooling Study - Outfall 006

| Required Action | Due Date |
|--|------------|
| Submit Dissipative Cooling Study Plan: The permittee shall submit an action plan for a Dissipative Cooling (DC) Study to be completed in the month of November. This plan should ensure that the DC requirements specified in s. NR 106.59, Wis. Adm. Code, are met. See Chapter 11 of the thermal guidance document for additional guidance on the information needed. | 03/31/2027 |
| <p>Complete and Submit Dissipative Cooling Study: An updated dissipative cooling study for Outfall 006 meeting the following requirements shall be submitted by the date due for determining the need for sub-lethal effluent limitations at the time of next permit reissuance: 1) A written description of the physical characteristics of the receiving water or outfall that encourage rapid dilution, diffusion, dispersion, or dissipation of heat; 2) A written description of the presence or absence of other thermal loads to the receiving stream; 3) The minimum and maximum effluent temperature for each calendar week monitored.</p> <p>Note: The dissipative cooling study shall be conducted in the month of November.</p> <p>The study shall also include any site-specific information collected as part of the study, including: 1) Information regarding the biological quality of the animal and plant community of the receiving water including, but not limited to, species composition, richness, diversity, density, distribution, age structure, spawning incidence, and presence of any state or federally listed threatened or endangered species; 2) Data concerning the physical characteristics of the receiving water or permitted outfalls that encourage rapid dilution, diffusion, dispersion, and/or dissipation of heat; 3) The minimum and maximum temperature of the receiving water upstream of all permitted outfalls for each calendar month monitored.</p> | 03/31/2028 |

5.2 Water Quality Based Effluent Limits for Chloride - Outfalls 001 and 006

| Required Action | Due Date |
|---|------------|
| Chloride Progress Report #1: Submit a chloride progress report. The chloride progress report shall include: the chloride source reduction measures or activities that have been implemented; an analysis of trends in weekly and monthly average chloride concentrations and total mass discharge of chloride based on chloride sampling and flow data; and the actions the permittee plans to take to achieve compliance with the final chloride water quality based effluent limits. | 10/31/2025 |
| Achieve Compliance: The permittee shall comply with the final water quality-based chloride effluent limitations: 470 mg/L as both a weekly and monthly average for Outfall 001, and 400 mg/L as both a weekly and monthly average for Outfall 006. Additionally, the permittee shall comply with the non-wet weather and wet weather mass-based limits of 18,400 lbs/day and 75,000 lbs/day for Outfall 001, and 31,000 lbs/day and 64,000 lbs/day for Outfall 006, respectively. | 11/01/2026 |

5.3 Year-Round Disinfection - Outfall 006

| Required Action | Due Date |
|---|------------|
| <p>Submit Sampling Plan: Submit a plan for sampling instream E. coli bacteria concentrations of the Root River downstream of Outfall 006 to the Horlick Dam to support the evaluation of need for an extension of effluent disinfection beyond the period of May 1 through September 30 each year to protect recreational uses and human health pursuant to s. NR 210.06(1)(c), Wis. Adm. Code.</p> <p>The sampling plan shall include monitoring points at various locations between Outfall 006 and the Horlick Dam and before and after any other permitted wastewater outfalls and identified recreational sites. The plan shall include but is not limited to a map of proposed sample locations and a timeline for sampling to be conducted from October 1, 2025 through April 30, 2026 along with any other pertinent information.</p> | 08/31/2025 |
| <p>Initiate Downstream Sampling and Evaluation: The permittee shall initiate instream sampling in accordance with the approved sampling plan and begin evaluation of the degree and extent of E. coli bacteria present in the receiving water. The permittee shall notify the department when sampling efforts begin.</p> | 10/01/2025 |
| <p>Sampling Progress Report: Submit a progress report related to the sampling activities conducted from October 1, 2025 through April 30, 2026. Identify any proposed changes to the sampling plan. Include available sample results of samples collected and identify any changes to the sampling plan that were made based on observations that occurred during sampling events.</p> | 05/31/2026 |
| <p>Evaluation Report: The permittee shall submit a final evaluation report that includes the following:</p> <ol style="list-style-type: none"> 1) The E.coli bacteria levels recorded at the sample points identified in the approved sampling plan along with any additional samples that were collected. 2) An analysis of the dilution and mixing characteristics of the effluent with the receiving water and other wastewater dischargers downstream of Outfall 006 to the Horlick Dam. 3) A conclusion on the likelihood the facility will need to maintain year-round disinfection or an extended disinfection period. <p>The permittee shall submit a request to evaluate the need for an extension of effluent disinfection beyond the period of May 1 through September 30 each year to protect recreational uses and human health pursuant to s. NR 210.06(1)(c), Wis. Adm. Code.</p> <p>If the department determines there is no reasonable cause to extend the disinfection period, permit modification would be required to remove or alter the year-round disinfection requirement and remaining schedule actions.</p> | 01/31/2027 |
| <p>Commence Year-Round Disinfection: The year-round disinfection requirement becomes effective, and the permittee shall continue disinfection past September 30th to achieve compliance with the final year-round E. coli limitations.</p> | 10/01/2027 |

5.4 PFOS/PFOA Minimization Plan Determination of Need

| Required Action | Due Date |
|--|------------|
| <p>Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code.</p> <p>This report shall include all additional PFOS and PFOA data that may be collected including any</p> | 07/31/2026 |

| | |
|---|------------|
| influent, intake, in-plant, collection system sampling, and blank sample results. | |
| <p>Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan.</p> <p>This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.</p> <p>The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan.</p> <p>If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued.</p> <p>If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.</p> | 07/31/2027 |

6 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.

6.1 Reporting and Monitoring Requirements

6.1.1 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.

6.1.2 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.

6.1.3 Pretreatment Sampling Requirements

Sampling for pretreatment parameters (cadmium, chromium, copper, lead, nickel, zinc, and mercury) shall be done during a day each month when industrial discharges are occurring at normal to maximum levels. The sampling of the influent and effluent for these parameters shall be coordinated. All 24 hour composite samples shall be flow proportional.

6.1.4 Recording of Results

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

- the date, exact place, method and time of sampling or measurements;

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

6.1.5 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.

6.1.6 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.

6.1.7 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.

6.1.8 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.

6.1.9 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.

6.2 System Operating Requirements

6.2.1 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.**

6.2.2 Flow Meters

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

6.2.3 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.

6.2.4 Sludge Management

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

6.2.5 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.

6.2.6 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.

6.2.7 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.

6.2.8 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.

6.2.9 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.

6.2.10 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).

6.3 Sewage Collection Systems

6.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

6.3.1.1 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.

6.3.1.2 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.

6.3.1.3 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.

6.3.1.4 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.

6.3.2 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.

6.3.3 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.

6.4 Surface Water Requirements

6.4.1 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.

6.4.2 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.

6.4.3 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.

6.4.4 Visible Foam or Floating Solids

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

6.4.5 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.

6.4.6 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.

6.4.7 *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.

6.4.8 Year-Round Disinfection (*E. coli* Only)

Disinfection shall be provided year-round. Monitoring requirements and the limitations for *E. coli* apply during the period in which disinfection is required. Whenever chlorine is used for disinfection or other effluent uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used for disinfection or other effluent uses.

6.4.9 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.

6.4.10 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.

6.4.11 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.

6.4.12 PFOS and PFOA Requirements

The laboratory performing the analysis on any samples shall be certified for the applicable PFAS compounds in the aqueous matrix by the Wisconsin Laboratory Certification Program established under s. 299.11, Wis. Stats., in accordance with s. NR 149.41, Wis. Adm. Code. All laboratories are required to utilize EPA Method 1633A for sampling PFAS in sludge.

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.

6.5 Pretreatment Program Requirements

The permittee is required to operate an industrial pretreatment program as described in the program initially approved by the Department of Natural Resources including any subsequent program modifications approved by the Department, and including commitments to program implementation activities provided in the permittee's annual pretreatment program report, and that complies with the requirements set forth in 40 CFR Part 403 and ch. NR 211, Wis. Adm. Code. To ensure that the program is operated in accordance with these requirements, the following general conditions and requirements are hereby established:

6.5.1 Inventories

The permittee shall implement methods to maintain a current inventory of the general character and volume of wastewater that industrial users discharge to the treatment works and shall provide an updated industrial user listing annually and report any changes in the listing to the Department by March 31 of each year as part of the annual pretreatment program report required herein.

6.5.2 Regulation of Industrial Users

6.5.2.1 Limitations for Industrial Users:

The permittee shall develop, maintain, enforce and revise as necessary local limits to implement the general and specific prohibitions of the state and federal General Pretreatment Regulations.

6.5.2.2 Control Documents for Industrial Users (IUs)

The permittee shall control the discharge from each significant industrial user through individual discharge permits as required by s. NR 211.235, Wis. Adm. Code and in accordance with the approved pretreatment program procedures and the permittee's sewer use ordinance. The discharge permits shall be modified in a timely manner during the stated term of the discharge permits according to the sewer use ordinance as conditions warrant. The discharge permits shall include at a minimum the elements found in s. NR 211.235(1), Wis. Adm. Code and references to the approved pretreatment program procedures and the sewer use ordinance.

6.5.2.3 Review of Industrial User Reports, Inspections and Compliance Monitoring

The permittee shall require the submission of, receive, and review self-monitoring reports and other notices from industrial users in accordance with the approved pretreatment program procedures. The permittee shall randomly sample and analyze industrial user discharges and conduct surveillance activities to determine independent of information supplied by the industrial users, whether the industrial users are in compliance with pretreatment standards and requirements. The inspections and monitoring shall also be conducted to maintain accurate knowledge of local industrial processes, including changes in the discharge, pretreatment equipment operation, spill prevention control plans, slug control plans, and implementation of solvent management plans.

The permittee shall inspect and sample the discharge from each significant industrial user as specified in the permittee's approved pretreatment program or as specified in NR 211.235(3). The permittee shall evaluate whether industrial users identified as significant need a slug control plan according to the requirements of NR 211.235(4). If a slug control plan is needed, the plan shall contain at a minimum the elements specified in s. NR 211.235(4)(b), Wis. Adm. Code.

6.5.2.4 Enforcement and Industrial User Compliance Evaluation & Violation Reports

The permittee shall enforce the industrial pretreatment requirements including the industrial user discharge limitations of the permittee's sewer use ordinance. The permittee shall investigate instances of noncompliance by collecting and analyzing samples and collecting other information with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Investigation and response to instances of noncompliance shall be in accordance with the permittee's sewer use ordinance and approved Enforcement Response Plan.

The permittee shall make a semiannual report on forms provided or approved by the Department. The semiannual report shall include an analysis of industrial user significant noncompliance (i.e. the Industrial User Compliance Evaluation, also known as the SNC Analysis) as outlined in s.NR 211.23(1)(j), Wis. Adm. Code, and a summary of the permittee's response to all industrial noncompliance (i.e. the Industrial User Violation Report). The Industrial User Compliance Evaluation Report shall include monitoring results received from industrial users pursuant to s. NR 211.15(1)-(5), Wis. Adm. Code. The Industrial User Violation Report shall include copies of all notices of noncompliance, notices of violation and other enforcement correspondence sent by the permittee to industrial users, together with the industrial user's response. The Industrial User Compliance Evaluation and Violation Reports for the period January through June shall be provided to the Department by September 30 of each year and for the period July through December shall be provided to the Department by March 31 of the succeeding year, unless alternate submittal dates are approved.

6.5.2.5 Publication of Violations

The permittee shall publish a list of industrial users that have significantly violated the municipal sewer use ordinance during the calendar year, in the largest daily newspaper in the area by March 31 of the following year pursuant to s. NR 211.23(1)(j), Wis. Adm. Code. A copy of the newspaper publication shall be provided as part of the annual pretreatment report specified herein.

6.5.2.6 Multijurisdictional Agreements

The permittee shall establish agreements with all contributing jurisdictions as necessary to ensure compliance with pretreatment standards and requirements by all industrial users discharging to the permittee's wastewater treatment system. Any such agreement shall identify who will be responsible for maintaining the industrial user inventory, issuance of industrial user control mechanisms, inspections and sampling, pretreatment program implementation, and enforcement.

6.5.3 Annual Pretreatment Program Report

The permittee shall evaluate the pretreatment program, and submit the Pretreatment Program Report to the Department on forms provided or approved by the Department by March 31 annually, unless an alternate submittal date is approved. The report shall include a brief summary of the work performed during the preceding calendar year, including the numbers of discharge permits issued and in effect, pollution prevention activities, number of inspections and monitoring surveys conducted, budget and personnel assigned to the program, a general discussion of program progress in meeting the objectives of the permittee's pretreatment program together with summary comments and recommendations.

6.5.4 Pretreatment Program Modifications

- **Future Modifications:** The permittee shall within one year of any revisions to federal or state General Pretreatment Regulations submit an application to the Department in duplicate to modify and update its approved pretreatment program to incorporate such regulatory changes as applicable to the permittee. Additionally, the Department or the permittee may request an application for program modification at any time where necessary to improve program effectiveness based on program experience to date.
- **Modifications Subject to Department Approval:** The permittee shall submit all proposed pretreatment program modifications to the Department for determination of significance and opportunity for comment in accordance with the requirements and conditions of s. NR 211.27, Wis. Adm. Code. Any substantial proposed program modification shall be subject to Department public noticing and formal approval prior to implementation. A substantial program modification includes, but is not limited to, changes in enabling legal authority to administer and enforce pretreatment conditions and requirements; significant changes in program administrative or operational procedures; significant reductions in monitoring frequencies; significant reductions in program resources including personnel commitments, equipment, and funding levels; changes (including any relaxation) in the local limitations for substances enforced and applied to users of the sewerage treatment works; changes in treatment works sludge disposal or management practices which impact the

pretreatment program; or program modifications which increase pollutant loadings to the treatment works. The Department shall use the procedures outlined in s. NR 211.30, Wis. Adm. Code for review and approval/denial of proposed pretreatment program modifications. The permittee shall comply with local public participation requirements when implementing the pretreatment program.

6.5.5 Program Resources

The permittee shall have sufficient resources and qualified personnel to carry out the pretreatment program responsibilities as listed in ss. NR 211.22 and NR 211.23, Wis. Adm. Code.

6.6 Land Application Requirements

6.6.1 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.

6.6.2 General Sludge Management Information

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

6.6.3 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.

6.6.4 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 whether or not samples are analyzed. In years in which monitoring does not occur, the report shall be completed by checking on the form that monitoring/land application did not occur.

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.

6.6.5 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) =

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

6.6.6 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.

6.6.7 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.

6.6.8 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.

6.6.9 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)(l), Wis. Adm. Code.

6.6.10 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.

6.6.11 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.

6.6.12 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 = \log_{10} 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 | 6.0×10^5 | 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.

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

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

6.6.13 Class B Sludge: Anaerobic Digestion

Treat the sludge in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35° C to 55° C and 60 days at 20° C. Straight-line interpolation to calculate mean cell residence time is allowable when the temperature falls between 35° C and 20° C.

6.6.14 Class B Sludge - Vector Control: Incorporation

Class B sludge shall be incorporated within 6 hours of surface application, or as approved by the Department.

6.6.15 Landfilling of Sludge

General: Sewage sludge may not be disposed of in a municipal solid waste landfill unless the landfill meets the requirements of chs. NR 500 to 536, Wis. Adm. Code, and is an approved facility as defined in s. 289.01(3), Wis. Stats. Any facility accepting sewage sludge shall be approved by the Department in writing to accept sewage sludge. Disposal of sewage sludge in a municipal solid waste landfill shall be in accordance with ss. NR 506.13 and 506.14. Sewage sludge may not be disposed of in a surface disposal unit as defined in s. NR 204.03(63).

Approval: The permittee shall obtain approval from the Department prior to the disposal of sludge at a Wisconsin licensed landfill.

6.6.16 Sludge Landfilling Reports

The permittee shall report the volume of sludge disposed of at any landfill facility on Form 3400-52. The permittee shall include the name and address of the landfill, the Department license number or other state's designation or license number for all landfills used during the report period and a letter of acceptability from the landfill owner. In addition, any permittee utilizing landfills as a disposal method shall submit to the Department any test results used to indicate acceptability of the sludge at a landfill. Form 3400-52 shall be submitted annually by January 31, each year whether or not sludge is landfilled.

6.6.17 Sludge Hauling

The permittee is required to submit Form 3400-52 to the Department. If sludge is hauled to another facility, information shall include the quantity of sludge hauled, the name, address, phone number, contact person, and permit number of the receiving facility. Form 3400-52 shall be submitted annually by January 31 each year whether or not sludge is hauled.

6.6.18 Land Application of Sludge Which Contains Elevated Levels of Radium-226

When contributory water supplies exceed 2 pci per liter of Radium 226, monitoring for Radium 226 in sludge is required. Sludge containing Radium 226 shall be land applied in accordance with the requirements in s. NR 204.07(3)(n), Wis. Adm. Code.

7 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

| Description | Date | Page |
|--|--|------|
| Dissipative Cooling Study - Outfall 006 -Submit Dissipative Cooling Study Plan | March 31, 2027 | 31 |
| Dissipative Cooling Study - Outfall 006 -Complete and Submit Dissipative Cooling Study | March 31, 2028 | 31 |
| Water Quality Based Effluent Limits for Chloride - Outfalls 001 and 006 - Chloride Progress Report #1 | October 31, 2025 | 31 |
| Water Quality Based Effluent Limits for Chloride - Outfalls 001 and 006 - Achieve Compliance | November 1, 2026 | 31 |
| Year-Round Disinfection - Outfall 006 -Submit Sampling Plan | August 31, 2025 | 32 |
| Year-Round Disinfection - Outfall 006 -Initiate Downstream Sampling and Evaluation | October 1, 2025 | 32 |
| Year-Round Disinfection - Outfall 006 -Sampling Progress Report | May 31, 2026 | 32 |
| Year-Round Disinfection - Outfall 006 -Evaluation Report | January 31, 2027 | 32 |
| Year-Round Disinfection - Outfall 006 -Commence Year-Round Disinfection | October 1, 2027 | 32 |
| PFOS/PFOA Minimization Plan Determination of Need -Report on Effluent Discharge | July 31, 2026 | 32 |
| PFOS/PFOA Minimization Plan Determination of Need -Report on Effluent Discharge and Evaluation of Need | July 31, 2027 | 33 |
| Compliance Maintenance Annual Reports (CMAR) | by June 30, each year | 35 |
| Industrial User Compliance Evaluation and Violation Reports | Semiannual | 45 |
| Pretreatment Program Report | Annually | 45 |
| General Sludge Management Form 3400-48 | prior to any significant sludge management changes | 46 |
| Characteristic Form 3400-49 and Lab Report | by January 31 following each year whether or not samples are analyzed | 46 |
| Land Application Report Form 3400-55 | by January 31, each year whether or not non-exceptional quality sludge is land applied | 47 |
| Other Methods of Disposal or Distribution Report Form 3400-52 | by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or | 47 |

| | | |
|--|---|----|
| | exceptional quality sludge is distributed or land applied | |
| Wastewater Discharge Monitoring Report | no later than the date indicated on the form | 34 |

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:

Southeast Region, 1027 W Saint Paul Ave, Milwaukee, WI 53233