



# WPDES PERMIT

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

**CHRISTMAS MOUNTAIN SANITARY DISTRICT**

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility  
located at  
S944 CHRISTMAS MOUNTAIN ROAD, SWQ, NWQ, SEC 13, T13N, R5E, DELLONA TWP, WISCONSIN  
DELLS, WISCONSIN  
to  
**Groundwater of the Lower Wisconsin River Basin (Dell Creek Watershed, LW26 – Lower Wisconsin River  
Basin) in Sauk 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 \_\_\_\_\_  
Lisa Creegan  
Wastewater Specialist

\_\_\_\_\_  
Date Permit Signed/Issued

**PERMIT TERM: EFFECTIVE DATE – April 01, 2023**  
**Modification Effective Date – January 01, 2025**

**EXPIRATION DATE – March 31, 2028**

## TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>1 INFLUENT REQUIREMENTS</b>   | <b>1</b>  |
| 1.1 SAMPLING POINT(S)  | 1         |
| 1.2 MONITORING REQUIREMENTS  | 1         |
| 1.2.1 <i>Sampling Point 701 - INFLUENT</i>   | 1         |
| <b>2 SURFACE WATER REQUIREMENTS</b>  | <b>2</b>  |
| 2.1 SAMPLING POINT(S)  | 2         |
| 2.2 MONITORING REQUIREMENTS AND EFFLUENT LIMITATIONS   | 2         |
| 2.2.1 <i>Sampling Point (Outfall) 006 - Wetland Discharge</i>  | 2         |
| <b>3 LAND TREATMENT REQUIREMENTS</b>   | <b>6</b>  |
| 3.1 SAMPLING POINT(S)  | 6         |
| 3.2 MONITORING REQUIREMENTS AND LIMITATIONS  | 6         |
| 3.2.1 <i>Sampling Point (Outfall) 001 - EFFLUENT - SPRAY IRRIGATION, Spray Irrigation</i>                  | 6         |
| 3.2.2 <i>Sampling Point (Outfall) 003 - EFFLUENT - DRIP IRRIGATION, Subsurface Absorption (Drip Irrig)</i> | 8         |
| 3.2.3 <i>Sampling Point (Outfall) 007 - Combined Outfalls 001-003-006, Other</i>                           | 9         |
| <b>4 GROUNDWATER REQUIREMENTS</b>  | <b>11</b> |
| 4.1 MONITORING REQUIREMENTS AND LIMITATIONS  | 11        |
| 4.1.1 <i>Groundwater Monitoring System for spray irrigation monitoring system</i>                          | 11        |
| <b>5 LAND APPLICATION REQUIREMENTS</b>   | <b>13</b> |
| 5.1 SAMPLING POINT(S)  | 13        |
| 5.2 MONITORING REQUIREMENTS AND LIMITATIONS  | 13        |
| 5.2.1 <i>Sampling Point (Outfall) 002 - SLUDGE</i>   | 13        |
| <b>6 SCHEDULES</b>   | <b>18</b> |
| 6.1 LAND TREATMENT MANAGEMENT PLAN   | 18        |
| 6.2 GROUNDWATER MONITORING WELL - INSTALLATION   | 18        |
| <b>7 STANDARD REQUIREMENTS</b>   | <b>19</b> |
| 7.1 REPORTING AND MONITORING REQUIREMENTS  | 19        |
| 7.1.1 <i>Monitoring Results</i>  | 19        |
| 7.1.2 <i>Sampling and Testing Procedures</i>   | 19        |
| 7.1.3 <i>Recording of Results</i>  | 19        |
| 7.1.4 <i>Reporting of Monitoring Results</i>   | 19        |
| 7.1.5 <i>Compliance Maintenance Annual Reports</i>   | 20        |
| 7.1.6 <i>Records Retention</i>   | 20        |
| 7.1.7 <i>Other Information</i>   | 20        |
| 7.1.8 <i>Reporting Requirements – Alterations or Additions</i>   | 20        |
| 7.2 SYSTEM OPERATING REQUIREMENTS  | 21        |
| 7.2.1 <i>Noncompliance Reporting</i>   | 21        |
| 7.2.2 <i>Flow Meters</i>   | 21        |
| 7.2.3 <i>Raw Grit and Screenings</i>   | 21        |
| 7.2.4 <i>Sludge Management</i>   | 21        |
| 7.2.5 <i>Prohibited Wastes</i>   | 22        |
| 7.2.6 <i>Bypass</i>  | 22        |
| 7.2.7 <i>Scheduled Bypass</i>  | 22        |
| 7.2.8 <i>Controlled Diversions</i>   | 22        |
| 7.2.9 <i>Proper Operation and Maintenance</i>  | 23        |
| 7.2.10 <i>Operator Certification</i>   | 23        |
| 7.3 SEWAGE COLLECTION SYSTEMS  | 23        |
| 7.3.1 <i>Sanitary Sewage Overflows and Sewage Treatment Facility Overflows</i>                             | 23        |

WPDES Permit No. WI-0036064-07-1  
CHRISTMAS MOUNTAIN SANITARY DISTRICT

|   |    |
|---|----|
| 7.3.2 Capacity, Management, Operation and Maintenance (CMOM) Program                                    | 25 |
| 7.3.3 Sewer Cleaning Debris and Materials   | 25 |
| 7.4 SURFACE WATER REQUIREMENTS  | 25 |
| 7.4.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit                          | 25 |
| 7.4.2 Appropriate Formulas for Effluent Calculations  | 26 |
| 7.4.3 Effluent Temperature Requirements   | 26 |
| 7.4.4 Visible Foam or Floating Solids   | 26 |
| 7.4.5 Surface Water Uses and Criteria   | 26 |
| 7.4.6 Percent Removal   | 27 |
| 7.4.7 Fecal Coliform  | 27 |
| 7.4.8 E. coli   | 27 |
| 7.4.9 Seasonal Disinfection   | 27 |
| 7.5 LAND TREATMENT (LAND DISPOSAL) REQUIREMENTS   | 27 |
| 7.5.1 Application of NR 140 to Substances Discharged  | 27 |
| 7.5.2 Appropriate Formulas for Land Treatment Calculations – Nitrogen & Chloride                        | 27 |
| 7.5.3 Toxic or Hazardous Pollutants   | 28 |
| 7.5.4 Industrial Waste - Pretreatment Requirements  | 28 |
| 7.5.5 Overflow  | 28 |
| 7.5.6 Management Plan Requirements  | 28 |
| 7.5.7 Monthly Average Hydraulic Application Rate  | 28 |
| 7.5.8 Nitrogen Loading Requirements for Spray Irrigation  | 28 |
| 7.5.9 Runoff  | 28 |
| 7.5.10 Ponding  | 28 |
| 7.5.11 Frozen Ground  | 29 |
| 7.5.12 Land Treatment Annual Report   | 29 |
| 7.6 GROUNDWATER STANDARD REQUIREMENTS   | 29 |
| 7.6.1 Application of NR 140 to Substances Discharged  | 29 |
| 7.6.2 Groundwater Sampling  | 29 |
| 7.6.3 Indicator Parameter - Preventive Action Limits  | 29 |
| 7.6.4 Groundwater Monitoring Forms  | 29 |
| 7.6.5 Appropriate Formulas for Groundwater  | 29 |
| 7.6.6 Reporting Depth to Groundwater  | 29 |
| 7.6.7 Groundwater Elevation   | 30 |
| 7.6.8 Groundwater Grab Samples  | 30 |
| 7.6.9 Filtering of Groundwater Samples  | 30 |
| 7.6.10 Groundwater Data Log   | 30 |
| 7.6.11 Notification of Attaining or Exceeding Groundwater Quality Standards                             | 30 |
| 7.6.12 Preventive Action Limit (PAL) Exceedance   | 30 |
| 7.6.13 Enforcement Standard Exceedance Within the Design Management Zone                                | 30 |
| 7.6.14 Enforcement Standard Exceedance Outside the Design Management Zone                               | 31 |
| 7.7 LAND APPLICATION REQUIREMENTS   | 31 |
| 7.7.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations | 31 |
| 7.7.2 General Sludge Management Information   | 31 |
| 7.7.3 Sludge Samples  | 31 |
| 7.7.4 Land Application Characteristic Report  | 31 |
| 7.7.5 Calculation of Water Extractable Phosphorus   | 31 |
| 7.7.6 Monitoring and Calculating PCB Concentrations in Sludge   | 32 |
| 7.7.7 Annual Land Application Report  | 32 |
| 7.7.8 Other Methods of Disposal or Distribution Report  | 32 |
| 7.7.9 Approval to Land Apply  | 32 |
| 7.7.10 Soil Analysis Requirements   | 32 |
| 7.7.11 Land Application Site Evaluation   | 33 |
| 7.7.12 Class B Sludge: Anaerobic Digestion  | 33 |
| 7.7.13 Vector Control: Specific Oxygen Uptake Rate  | 33 |
| 7.7.14 Vector Control: pH Adjustment  | 33 |
| 7.7.15 Class B Sludge - Vector Control: Injection   | 33 |

*7.7.16 Class B Sludge - Vector Control: Incorporation*

33

*7.7.17 Sludge Hauling*

33

**8 SUMMARY OF REPORTS DUE**

**34**

# 1 Influent Requirements

## 1.1 Sampling Point(s)

| <b>Sampling Point Designation</b> |   |
|-----------------------------------|---|
| <b>Sampling Point Number</b>      | <b>Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)</b> |
| 701                               | Representative influent samples shall be collected just prior to the EQ basin.                      |

## 1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

### 1.2.1 Sampling Point 701 - INFLUENT

| <b>Monitoring Requirements and Limitations</b> |                   |                        |                         |                    |              |
|--|-------------------|------------------------|-------------------------|--------------------|--------------|
| <b>Parameter</b>                               | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> | <b>Notes</b> |
| Flow Rate                                      |                   | MGD                    | Daily                   | Continuous         |              |
| BOD <sub>5</sub> , Total                       |                   | mg/L                   | 2/Week                  | 24-Hr Comp         |              |
| Suspended Solids, Total                        |                   | mg/L                   | 2/Week                  | 24-Hr Comp         |              |
| Nitrogen, Total Kjeldahl                       |                   | mg/L                   | Monthly                 | 24-Hr Comp         |              |
| Nitrogen, Organic Total                        |                   | mg/L                   | Monthly                 | Calculated         |              |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total   |                   | mg/L                   | Monthly                 | 24-Hr Comp         |              |

## 2 Surface Water Requirements

### 2.1 Sampling Point(s)

| <b>Sampling Point Designation</b> |   |
|-----------------------------------|---|
| <b>Sampling Point Number</b>      | <b>Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)</b>   |
| 006                               | Representative effluent samples prior to discharge to the wetland discharge system shall be collected at the effluent manhole prior to the EQ Tank post chlorination. Discharge to wetland requires disinfection May through September. |

### 2.2 Monitoring Requirements and Effluent Limitations

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

#### 2.2.1 Sampling Point (Outfall) 006 - Wetland Discharge

| <b>Monitoring Requirements and Effluent Limitations</b> |                          |                        |                         |                      |                        |
|---|--------------------------|------------------------|-------------------------|----------------------|------------------------|
| <b>Parameter</b>  | <b>Limit Type</b>        | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b>   | <b>Notes</b>           |
| Flow Rate   | Annual Avg               | 36,650 gpd             | Daily                   | Continuous           |                        |
| BOD <sub>5</sub> , Total                                | Weekly Avg               | 30 mg/L                | Weekly                  | 24-Hr Flow Prop Comp |                        |
| BOD <sub>5</sub> , Total                                | Monthly Avg              | 20 mg/L                | Weekly                  | 24-Hr Flow Prop Comp |                        |
| Suspended Solids, Total                                 | Weekly Avg               | 30 mg/L                | Weekly                  | 24-Hr Flow Prop Comp |                        |
| Suspended Solids, Total                                 | Monthly Avg              | 20 mg/L                | Weekly                  | 24-Hr Flow Prop Comp |                        |
| pH Field  | Daily Max                | 9.0 su                 | Weekly                  | Grab                 |                        |
| pH Field  | Daily Min                | 6.0 su                 | Weekly                  | Grab                 |                        |
| Dissolved Oxygen  | Daily Min                | 4.0 mg/L               | Weekly                  | Grab                 |                        |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total            | Daily Max                | 21 mg/L                | Weekly                  | 24-Hr Flow Prop Comp | November through April |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total            | Weekly Avg               | 17 mg/L                | Weekly                  | 24-Hr Flow Prop Comp | May through October    |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total            | Monthly Avg              | 6.7 mg/L               | Weekly                  | 24-Hr Flow Prop Comp | May through October    |
| Chlorine, Total Residual                                | Daily Max                | 19 µg/L                | Weekly                  | Grab                 | May through September  |
| Chlorine, Total Residual                                | Weekly Avg               | 7.3 µg/L               | Weekly                  | Grab                 | May through September  |
| E. coli   | Geometric Mean - Monthly | 126 #/100 ml           | Weekly                  | Grab                 | May through September  |

| <b>Monitoring Requirements and Effluent Limitations</b> |                   |                        |                         |                      |   |
|---|-------------------|------------------------|-------------------------|----------------------|---|
| <b>Parameter</b>  | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b>   | <b>Notes</b>  |
| E. coli   | % Exceedance      | 10 Percent             | Monthly                 | Calculated           | Limit Effective May through September annually. See the E. coli Percent Limit section below. Enter the result in the DMR on the last day of the month.  |
| Phosphorus, Total                                       | Monthly Avg       | 1.0 mg/L               | Weekly                  | 24-Hr Flow Prop Comp |   |
| Chloride  |                   | mg/L                   | Monthly                 | 24-Hr Flow Prop Comp | Monitoring in 2026 only.  |
| Copper, Total Recoverable                               |                   | µg/L                   | Monthly                 | 24-Hr Flow Prop Comp | Monitoring in 2026 only.  |
| Nitrogen, Total Kjeldahl                                |                   | mg/L                   | See Listed Qtr(s)       | 24-Hr Flow Prop Comp | Annual in rotating quarters. See Nitrogen Series Monitoring section below.  |
| Nitrogen, Nitrite + Nitrate Total                       |                   | mg/L                   | See Listed Qtr(s)       | 24-Hr Flow Prop Comp | Annual in rotating quarters. See Nitrogen Series Monitoring section below.  |
| Nitrogen, Total   |                   | mg/L                   | See Listed Qtr(s)       | Calculated           | Annual in rotating quarters. See Nitrogen Series Monitoring section below. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen. |
| Temperature   |                   | deg F                  | Monthly                 | Continuous           | Monitoring in 2026 only.  |

### 2.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee's wastewater treatment facility is 0.142 MGD.

### 2.2.1.2 E. coli Percent Limit

E. coli Percent Exceedance and Monthly Geo-Mean limits apply May through September annually. No discharge is authorized to the wetlands May through September unless all limitations are met.

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.

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

### 2.2.1.1 Nitrogen Series Monitoring

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

- **October – December 2023; January – March 2024; October – December 2025; January – March 2026; October – December 2027**

Nitrogen Series monitoring shall continue after the permit expiration date (until the permit is reissued) in accordance with the monitoring requirements specified in the last full calendar year of this permit. For example, the next test would be required in **October – December 2028**.

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

### 2.2.1.2 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13), Wis. Adm. Code. This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. 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.

### 2.2.1.3 Hydraulic Application Rate

The discharge to the wetland shall be limited to a hydraulic application rate of 36,650 gallons per day on an annual average basis. In addition, the discharge shall be operated in a manner to minimize ponding of effluent in the wetland and prevent channelized flow through the wetland. To comply with this requirement, it may be necessary at times to reduce or eliminate the discharge to the wetland.

### 2.2.1.4 Total Metals Analyses

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

### 2.2.1.5 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.

### 2.2.1.6 Provision of Signage

Signs shall be posted and maintained at intervals of 100 feet along the wetland perimeter to inform the public that treated effluent is being discharged to the wetland.

### 2.2.1.7 Chlorine Monitoring and Limitations

Chlorine monitoring and limitations apply to wastewater discharged to wetlands at Outfall 006 during the disinfection season of May through September annually. Discharge from May through September is within the disinfection season and *E. coli* limits must be met. If wastewater that has not been chlorinated is discharged to wetlands October through April (non-disinfection period) the signs required in Provision of Signage Section must indicate that treated but unchlorinated effluent is being discharged to the wetland. When unchlorinated effluent is discharged to wetlands at Outfall 006 the permittee shall indicate on the monthly eDMR that no chlorination occurred. Alternatively, the permittee may provide the Department with a report of the operating procedures for chlorination for Outfall 006.



### **2.2.1.8 Annual Wetland Evaluation**

An annual wetland evaluation shall be conducted by an independent wetland ecologist and a report submitted to the department by January 31 of each year.

The “Pebble Beach Dr. Wetland Vegetation Assessment,” August 10, 2011, prepared by Scott Taylor will be used as the baseline study for the wetland evaluation. The evaluation report will note any changes to wetland vegetation compared to this baseline study. The report will also note any indication of ponding or channelization occurring in the wetland.

The department will review the wetland inspection reports, annual wetland evaluation, discharge monitoring reports and other observations to determine whether any changes to the application rate are warranted. Monthly wetland inspection is no longer required.

### 3 Land Treatment Requirements

#### 3.1 Sampling Point(s)

| <b>Sampling Point Designation</b> |  |
|-----------------------------------|--|
| <b>Sampling Point Number</b>      | <b>Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)</b>  |
| 001                               | Representative effluent grab samples of discharge to the spray irrigation system shall be collected from the pump station wet well after the holding pond prior to spray irrigation (March 1 through November 30). Permitted spray irrigation sites are limited to fairways #3, #6, #7, #8 and #9. |
| 003                               | Representative 24-Hr flow proportional composite effluent samples taken prior to the drip irrigation system shall be collected at the effluent manhole prior to chlorination and the EQ Tank.  |
| 007                               | The Daily Flow from Outfalls 001 (spray irrigation), 003 (drip irrigation) & 006 (wetland discharge) shall be combined and recorded for CMAR use.  |

#### 3.2 Monitoring Requirements and Limitations

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

##### 3.2.1 Sampling Point (Outfall) 001 - EFFLUENT - SPRAY IRRIGATION, Spray Irrigation

| <b>Monitoring Requirements and Limitations</b> |                          |                        |                         |                    |                      |
|--|--------------------------|------------------------|-------------------------|--------------------|----------------------|
| <b>Parameter</b>                               | <b>Limit Type</b>        | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> | <b>Notes</b>         |
| Flow Rate                                      |                          | MGD                    | Daily                   | Total Daily        | Mar 1 through Nov 30 |
| Hydraulic Application Rate                     | Monthly Avg              | 10,000 gal/ac/day      | Monthly                 | Calculated         | Mar 1 through Nov 30 |
| BOD <sub>5</sub> , Total                       | Monthly Avg              | 50 mg/L                | Weekly                  | Grab               | Mar 1 through Nov 30 |
| Suspended Solids, Total                        |                          | mg/L                   | Weekly                  | Grab               | Mar 1 through Nov 30 |
| pH Field                                       |                          | su                     | Weekly                  | Grab               | Mar 1 through Nov 30 |
| Fecal Coliform                                 | Geometric Mean - Monthly | 400 #/100 ml           | Weekly                  | Grab               |                      |
| Nitrogen, Total Kjeldahl                       |                          | mg/L                   | Monthly                 | Grab               | Mar 1 through Nov 30 |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total   |                          | mg/L                   | Monthly                 | Grab               | Mar 1 through Nov 30 |

WPDES Permit No. WI-0036064-07-1  
CHRISTMAS MOUNTAIN SANITARY DISTRICT

| <b>Monitoring Requirements and Limitations</b> |                   |                        |                         |                    |                      |
|--|-------------------|------------------------|-------------------------|--------------------|----------------------|
| <b>Parameter</b>                               | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> | <b>Notes</b>         |
| Nitrogen, Organic Total                        |                   | mg/L                   | Monthly                 | Calculated         | Mar 1 through Nov 30 |
| Nitrogen, Nitrite + Nitrate Total              |                   | mg/L                   | Monthly                 | Grab               | Mar 1 through Nov 30 |
| Nitrogen, Total                                |                   | mg/L                   | Monthly                 | Calculated         | Mar 1 through Nov 30 |
| Chloride                                       |                   | mg/L                   | Monthly                 | Grab               | Mar 1 through Nov 30 |
| Solids, Total Dissolved                        |                   | mg/L                   | Monthly                 | Grab               | Mar 1 through Nov 30 |
| Nitrogen, Max Applied On Any Zone              | Annual Total      | 100 lbs/ac/yr          | Annual                  | Total Annual       |                      |

| <b>Daily Log – Monitoring Requirements and Limitations</b>   |              |                   |                         |                    |
|--|--------------|-------------------|-------------------------|--------------------|
| All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department. |              |                   |                         |                    |
| <b>Parameters</b>  | <b>Limit</b> | <b>Units</b>      | <b>Sample Frequency</b> | <b>Sample Type</b> |
| Zone or Location Being Sprayed   | -            | Number            | Daily                   | Log                |
| Acres Being Sprayed  | -            | Acres             | Daily                   | Log                |
| Start to End Time  | -            | Date, Hour        | Daily                   | Log                |
| Wastewater Loading Volume  | -            | Gallons           | Daily                   | Log                |
| Maximum Applied Volume   | 0.9          | Inches/Load Cycle | Daily                   | Calculated         |

| <b>Annual Report – Monitoring Requirements and Limitations</b>                                    |              |                  |                         |                    |
|---|--------------|------------------|-------------------------|--------------------|
| The Annual Report is due by January 31 <sup>st</sup> of each year for the previous calendar year. |              |                  |                         |                    |
| <b>Parameters</b>   | <b>Limit</b> | <b>Units</b>     | <b>Sample Frequency</b> | <b>Sample Type</b> |
| Total Volume Per Zone   | -            | Gallons          | Annual                  | Total Annual       |
| Total Nitrogen per Zone   | <b>100</b>   | Pounds/Acre/Year | Annual                  | Calculated         |
| Soil Analysis   | -            | -                | Annual                  | Composite          |
| Fertilizer Used   | -            | Pounds/Acre/Year | Annual                  | Total Annual       |

Note: Inches/load cycle = gallons/acre/load cycle divided by 27,154.

### 3.2.1.1 Monthly Avg Flow – LT Calculation

The monthly average discharge flow for Land Treatment systems is calculated by dividing the total wastewater volume discharged for the month by the total number of days in the month.

### 3.2.1.2 Spray Irrigation Site(s) - Soil Analysis

The soil at each spray irrigation site corresponding to each spray irrigation sample point (outfall) shall be tested annually for nitrate-nitrogen, available phosphorus, available potassium and pH. The soil tests shall be conducted by an approved testing facility. Before using the spray irrigation site each spring, the permittee shall submit to the Department a Soil Test Report and a Preplant Profile Nitrate Report. All nutrient applications shall be consistent with recommendations found in the University of Wisconsin – Extension pamphlet A2809: Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, or as approved in the management plan. See the following Wisconsin Extension Service’s pamphlets for more information: A2100 – Sampling for Soil Testing, A3512 – Wisconsin’s Preplant Soil Nitrate Test, and A2519 – Soil and Applied Nitrogen.

### 3.2.1.3 Chlorination

Treated effluent discharged from the SBRs to the effluent storage pond shall be continuously chlorinated.

## 3.2.2 Sampling Point (Outfall) 003 - EFFLUENT - DRIP IRRIGATION, Subsurface Absorption (Drip Irrig)

| Monitoring Requirements and Limitations      |             |                 |                  |                      |       |
|--|-------------|-----------------|------------------|----------------------|-------|
| Parameter                                    | Limit Type  | Limit and Units | Sample Frequency | Sample Type          | Notes |
| Flow Rate                                    |             | MGD             | Continuous       | Total Daily          |       |
| BOD <sub>5</sub> , Total                     | Monthly Avg | 50 mg/L         | 2/Month          | 24-Hr Flow Prop Comp |       |
| Suspended Solids, Total                      |             | mg/L            | 2/Month          | 24-Hr Flow Prop Comp |       |
| pH Field                                     |             | su              | Weekly           | Grab                 |       |
| Nitrogen, Total Kjeldahl                     |             | mg/L            | Monthly          | 24-Hr Flow Prop Comp |       |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total |             | mg/L            | Monthly          | 24-Hr Flow Prop Comp |       |
| Nitrogen, Organic Total                      |             | mg/L            | Monthly          | Calculated           |       |
| Nitrogen, Nitrite + Nitrate Total            |             | mg/L            | Monthly          | 24-Hr Flow Prop Comp |       |
| Nitrogen, Total                              | Monthly Avg | 10 mg/L         | Monthly          | Calculated           |       |
| Solids, Total Dissolved                      |             | mg/L            | Monthly          | 24-Hr Flow Prop Comp |       |

| <b>Monitoring Requirements and Limitations</b> |            |                 |                  |                      |       |
|--|------------|-----------------|------------------|----------------------|-------|
| Parameter                                      | Limit Type | Limit and Units | Sample Frequency | Sample Type          | Notes |
| Chloride                                       | Daily Max  | 250 mg/L        | Monthly          | 24-Hr Flow Prop Comp |       |

| <b>Daily Log – Monitoring Requirements and Limitations</b>   |       |             |                  |             |
|--|-------|-------------|------------------|-------------|
| All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department. |       |             |                  |             |
| Parameters   | Limit | Units       | Sample Frequency | Sample Type |
| Cells Being Loaded   | -     | Cell Number | Daily            | Log         |
| Start to End Time  | -     | Date, Hour  | Daily            | Log         |

**3.2.2.1 Monthly Avg Flow – LT Calculation**

The monthly average discharge flow for Land Treatment systems is calculated by dividing the total wastewater volume discharged for the month by the total number of days in the month.

**3.2.3 Sampling Point (Outfall) 007 - Combined Outfalls 001-003-006, Other**

| <b>Monitoring Requirements and Limitations</b> |            |                 |                  |             |                      |
|--|------------|-----------------|------------------|-------------|----------------------|
| Parameter                                      | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes                |
| Flow Rate                                      |            | MGD             | Monthly          | Calculated  | See Section 3.2.3.1. |

| <b>Daily Log – Monitoring Requirements and Limitations</b>   |       |            |                  |             |
|--|-------|------------|------------------|-------------|
| All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department. |       |            |                  |             |
| Parameters   | Limit | Units      | Sample Frequency | Sample Type |
| Start to End Time  | -     | Date, Hour | Daily            | Log         |

WPDES Permit No. WI-0036064-07-1  
CHRISTMAS MOUNTAIN SANITARY DISTRICT

| <b>Annual Report – Monitoring Requirements and Limitations</b>                                    |              |              |                         |                    |
|---|--------------|--------------|-------------------------|--------------------|
| The Annual Report is due by January 31 <sup>st</sup> of each year for the previous calendar year. |              |              |                         |                    |
| <b>Parameters</b>   | <b>Limit</b> | <b>Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> |
| Total Volume Per Zone   | -            | Gallons      | Annual                  | Total Annual       |

## 4 Groundwater Requirements

### 4.1 Monitoring Requirements and Limitations

#### 4.1.1 Groundwater Monitoring System for spray irrigation monitoring system

**Location of Monitoring System:** NEQ, NWQ, SEC. 13, T13N, R5E

**Wells to be Monitored:** MW-2A (802 DOWNGRAIENT WELL), MW-5 (805 DOWNGRAIENT WELL), MW-6 (806 DOWNGRAIENT WELL), MW-7 (807 background well)

**Well Used To Calculate Preventive Action Limits (PALs):** MW-7 (807 background well)

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

**Point of Standards Application Well(s):** MW-2A (802 DOWNGRAIENT WELL), MW-5 (805 DOWNGRAIENT WELL), MW-6 (806 DOWNGRAIENT WELL)

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

**Required Monitoring:** Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

| PARAMETER                                    | UNITS    | PREVENTIVE ACTION LIMIT | ENFORCEMENT STANDARD | FREQUENCY |
|--|----------|-------------------------|----------------------|-----------|
| Depth To Groundwater*                        | feet     | *****                   | N/A                  | Quarterly |
| Groundwater Elevation*                       | feet MSL | *****                   | N/A                  | Quarterly |
| Nitrogen, Nitrite + Nitrate (as N) Dissolved | mg/L     | 2.0                     | 10                   | Quarterly |
| Chloride Dissolved                           | mg/L     | 125                     | 250                  | Quarterly |
| pH Field                                     | su       | 5.8 - 7.8               | N/A                  | Quarterly |
| Nitrogen, Total Kjeldahl Dissolved           | mg/L     | *****                   | N/A                  | Quarterly |
| Nitrogen, Ammonia Dissolved                  | mg/L     | 0.97                    | 9.7                  | Quarterly |
| Nitrogen, Organic Dissolved                  | mg/L     | 1.7                     | N/A                  | Quarterly |
| Solids, Total Dissolved                      | mg/L     | 505                     | N/A                  | Quarterly |

\*Sampling at MW-7 will occur annually during the third quarter of 2023 for depth to water and groundwater elevation. A new monitoring well (WDNR Point ID 808) shall be constructed to serve as the background monitoring well utilized for the characterization of background groundwater quality and for the development of Indicator Parameter PALs and Alternative Concentration Limits. Monitoring of MW-7 for depth to water and groundwater elevation will cease following completion of the new background monitoring well. Monitoring of the new background monitoring well 808 will include all of the parameters listed in section 4.1.1 of the permit.

| PARAMETER             | UNITS    | PREVENTIVE ACTION LIMIT | ENFORCEMENT STANDARD | FREQUENCY |
|-----------------------|----------|-------------------------|----------------------|-----------|
| Depth To Groundwater  | feet     | *****                   | N/A                  | Annual    |
| Groundwater Elevation | feet MSL | *****                   | N/A                  | Annual    |

#### **4.1.1.1 pH Preventive Action Limits**

A pH monitoring result is considered to have exceeded the pH preventive action limit (PAL) for this site if the result is less than **5.8** s.u. or greater than **7.8** s.u.

#### **4.1.1.2 Preventive Action Limits for Indicator Parameters**

Preventive Action Limits (PALs) for NR 140 Indicator Parameters have been established for this site. For more information see “Indicator Parameter – Preventive Action Limits” in the Standard Requirements section.

\*\*\*\*\*PALs are not calculated for Depth to Groundwater, Groundwater Elevation, nor Total Kjeldahl Nitrogen.



## 5 Land Application Requirements

### 5.1 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.

| <b>Sampling Point Designation</b> |  |
|-----------------------------------|--|
| <b>Sampling Point Number</b>      | <b>Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)</b>                   |
| 002                               | Aerobically digested, Liquid, Class B. Representative sludge samples shall be collected from the sludge storage tanks. |

### 5.2 Monitoring Requirements and Limitations

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

#### 5.2.1 Sampling Point (Outfall) 002 - SLUDGE

| <b>Monitoring Requirements and Limitations</b> |                   |                        |                         |                    |              |
|--|-------------------|------------------------|-------------------------|--------------------|--------------|
| <b>Parameter</b>                               | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> | <b>Notes</b> |
| 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 <sub>4</sub> -N) Total  |                   | Percent                | Annual                  | Composite          |              |
| Phosphorus, Total                              |                   | Percent                | Annual                  | Composite          |              |
| Phosphorus, Water Extractable                  |                   | % of Tot P             | Annual                  | Composite          |              |

| <b>Monitoring Requirements and Limitations</b> |                   |                        |                         |                    |              |
|--|-------------------|------------------------|-------------------------|--------------------|--------------|
| <b>Parameter</b>                               | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> | <b>Notes</b> |
| Potassium, Total Recoverable                   |                   | Percent                | Annual                  | Composite          |              |
| PCB Total Dry Wt                               | Ceiling           | 50 mg/kg               | Once                    | Composite          | Once in 2024 |
| PCB Total Dry Wt                               | High Quality      | 10 mg/kg               | Once                    | Composite          | Once in 2024 |

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

#### 5.2.1.1 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.

#### 5.2.1.2 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.

#### 5.2.1.3 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.

#### 5.2.1.4 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), 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), the Department shall be so notified through letter or in the comment section of the annual land application report (3400-55).

**5.2.1.5 Sludge Analysis for PCBs**

The permittee shall analyze the sludge for Total PCBs one time during **2024**. 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.

**5.2.1.6 Lists 1, 2, 3, and 4**

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

|   |
|---|
| <p><b>List 2</b><br/><b>NUTRIENTS</b></p> <p>See the Monitoring Requirements and Limitations table above for monitoring frequency for the List 2 parameters</p> |
| Solids, Total (percent)   |
| Nitrogen Total Kjeldahl (percent)   |
| Nitrogen Ammonium (NH <sub>4</sub> -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.

| <b>Parameter</b>  | <b>Unit</b>           | <b>Limit</b>            |
|---|-----------------------|-------------------------|
| Fecal Coliform *  | MPN/gTS or<br>CFU/gTS | 2,000,000               |
| <b>OR, ONE OF THE FOLLOWING PROCESS OPTIONS</b>   |                       |                         |
| 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.

| <b>Option</b>                 | <b>Limit</b>  | <b>Where/When it Shall be Met</b> |
|-------------------------------|---|-----------------------------------|
| Volatile Solids Reduction     | ≥38%  | Across the process                |
| Specific Oxygen Uptake Rate   | ≤1.5 mg O <sub>2</sub> /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<br>Avg. Temp > 45°C                        | On composted sludge               |
| pH adjustment                 | >12 S.U. (for 2 hours)<br>and >11.5<br>(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     |

### 5.2.1.7 Daily Land Application Log

| <b>Daily Land Application Log</b>   |  |                         |
|---|--|-------------------------|
| <b>Discharge Monitoring Requirements and Limitations</b>  |  |                         |
| <p>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.</p> |  |                         |
| <b>Parameters</b>   | <b>Units</b>                                 | <b>Sample Frequency</b> |
| 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

## 6 Schedules

### 6.1 Land Treatment Management Plan

A management plan is required for the land treatment system.

| Required Action   | Due Date   |
|---|------------|
| <p><b>Land Treatment Management Plan Submittal:</b> Submit an update to the management plan to optimize the land treatment system performance and demonstrate compliance with ch. NR 206, Wis. Adm. Code.</p> <p>This plan shall include details regarding compliance with fecal coliform limits to Spray Irrigation fields. The plan shall include conclusions from sampling data for fecal coliform both before and after the lagoon for one year to document compliance with fecal coliform limits. The Land Treatment Management Plan shall also include overall operations Standard Operating Procedures including flow distribution between the wetland, drip irrigation system, and spray irrigation system.</p> <p>The land treatment system shall be operated in accordance with the approved management plan.</p> | 05/01/2024 |

### 6.2 Groundwater Monitoring Well - Installation

| Required Action   | Due Date   |
|---|------------|
| <p><b>Plans and Specifications:</b> Submit plans and specifications consistent with the requirements in ch. NR 141, Wis. Adm. Code for the installation of a monitoring wells to replace Background Well 807 Well MW-7.</p>             | 08/01/2023 |
| <p><b>Installation:</b> Complete well installation in accordance with ch NR 141, Wisconsin Administrative Code. (Note: Documentation of well construction must be submitted to the Department within 60 days of well installation.)</p> | 04/01/2024 |

## 7 Standard Requirements

**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).

### 7.1 Reporting and Monitoring Requirements

#### 7.1.1 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.

#### 7.1.2 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 shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in 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.

#### 7.1.3 Recording of Results

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

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

#### 7.1.4 Reporting of Monitoring Results

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

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD5 and 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.

### **7.1.5 Compliance Maintenance Annual Reports**

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

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

The CMAR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The certification verifies that the electronic report is true, accurate and complete.

### **7.1.6 Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application. All pertinent sludge information, including permit application information and other documents specified in this permit or s. NR 204.06(9), Wis. Adm. Code shall be retained for a minimum of 5 years.

### **7.1.7 Other Information**

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

### **7.1.8 Reporting Requirements – Alterations or Additions**

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



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

## 7.2 System Operating Requirements

### 7.2.1 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.**

### 7.2.2 Flow Meters

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

### 7.2.3 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.

### 7.2.4 Sludge Management

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

### **7.2.5 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.

### **7.2.6 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 preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the Noncompliance Reporting section of this permit.

### **7.2.7 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.

### **7.2.8 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. 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.

### **7.2.9 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.

### **7.2.10 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).

## **7.3 Sewage Collection Systems**

### **7.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows**

#### **7.3.1.1 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 preventative 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.

### 7.3.1.2 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 NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

### 7.3.1.3 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 NR 205.07 (1) (r) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

#### **7.3.1.4 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.

#### **7.3.2 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.

#### **7.3.3 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.

### **7.4 Surface Water Requirements**

#### **7.4.1 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.

### 7.4.2 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.]

**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.

### 7.4.3 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.

### 7.4.4 Visible Foam or Floating Solids

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

### 7.4.5 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.

#### **7.4.6 Percent Removal**

During any 30 consecutive days, the average effluent concentrations of BOD<sub>5</sub> 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.

#### **7.4.7 Fecal Coliform**

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

#### **7.4.8 *E. coli***

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

#### **7.4.9 Seasonal Disinfection**

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

### **7.5 Land Treatment (Land Disposal) Requirements**

#### **7.5.1 Application of NR 140 to Substances Discharged**

This permit does not authorize the permittee to discharge any substance in a concentration which would cause an applicable groundwater standard of ch. NR 140, Wis. Adm. Code, to be exceeded. The Department may seek a response under NR 140 if the permittee's discharge causes exceedance of an applicable groundwater standard for any substance, including substances not specifically limited or monitored under this permit

#### **7.5.2 Appropriate Formulas for Land Treatment Calculations – Nitrogen & Chloride**

The permittee shall use the following formulas for nitrogen and chloride calculations.

##### **7.5.2.1 Nitrogen Formulas**

Total Nitrogen = Total Kjeldahl Nitrogen (mg/L) + [NO<sub>2</sub> + NO<sub>3</sub>] Nitrogen (mg/L)

Organic Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) - Ammonia Nitrogen (mg/L)

##### **7.5.2.2 Annual Total Nitrogen per Cell or per Zone**

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

### 7.5.2.3 Annual Total Chloride per Cell or per Zone

(annual ave. concentration in mg/L) (tot. annual flow in million gallons per cell or zone) (8.34) = lbs/ac/yr  
acreaage of cell or zone

### 7.5.3 Toxic or Hazardous Pollutants

The discharge of toxic or hazardous pollutants to land treatment systems is prohibited unless the applicant can demonstrate and the department determines that the discharge of such pollutants will be in such small quantities that no detrimental effect on groundwater or surface water will result pursuant to s. NR 206.07(2)(c), Wis. Adm. Code. The criteria used shall include but not be limited to the toxicity of the pollutant, capacity of the soil to remove the pollutant, degradability, usual or potential presence of the pollutant in the existing environment, method of application and all other relevant factors.

### 7.5.4 Industrial Waste - Pretreatment Requirements

Industrial waste discharges tributary to municipal land treatment systems shall be in compliance with the applicable pretreatment standards under ch. NR 211 Wis. Adm. Code pursuant to s. NR 206.07(2)(e), Wis. Adm. Code.

### 7.5.5 Overflow

Discharge to a land treatment system shall be limited so that the discharge and any precipitation which falls within the boundary of the disposal system during such discharge does not overflow the boundary of the system unless the WPDES permit authorizes collection and discharge of runoff to surface water pursuant to s. NR 206.07(2)(g), Wis. Adm. Code.

### 7.5.6 Management Plan Requirements

All land treatment systems shall be operated in accordance with an approved management plan. The management plan shall conform to the requirements of s. NR 110.25(3m), Wis. Adm. Code, per s. NR 206.07(2)(h), Wis. Adm. Code

### 7.5.7 Monthly Average Hydraulic Application Rate

When reporting of the Hydraulic Application Rate is required by this permit, determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly average value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

### 7.5.8 Nitrogen Loading Requirements for Spray Irrigation

The total annual nitrogen loading (pounds/acre/year) to the wastewater irrigation acreage shall not exceed the limitation contained in the land treatment annual report table of this permit, except that the Department may approve (in writing) an alternative nitrogen loading limit in a spray irrigation management plan based on the annual nitrogen needs of the cover crop and the permittee's demonstration of nitrogen losses for the site as specified in s. NR 206.06, Wis. Adm. Code.

### 7.5.9 Runoff

Discharge shall be limited to prevent any runoff of effluent from the spray irrigation site. Wastewater may not be sprayed during any rainfall event that causes runoff from the site, pursuant to s. NR 206.08(2)(b)1, Wis. Adm. Code.

### 7.5.10 Ponding



The volume of discharge to a spray irrigation system shall be limited to prevent ponding, except for temporary conditions following rainfall events, pursuant to s. NR 206.08(2)(b)2, Wis. Adm. Code.

### **7.5.11 Frozen Ground**

Spray irrigation onto frozen ground is prohibited, pursuant to s. NR 110.255(2)(a)2, Wis. Adm. Code.

### **7.5.12 Land Treatment Annual Report**

Annual Land Treatment Reports are due by January 31<sup>st</sup> of each year for the previous calendar year.

## **7.6 Groundwater Standard Requirements**

### **7.6.1 Application of NR 140 to Substances Discharged**

This permit does not authorize the permittee to discharge any substance in a concentration which would cause an applicable groundwater standard of ch. NR 140, Wis. Adm. Code, to be exceeded. The Department may seek a response under NR 140 if the permittee's discharge causes exceedance of an applicable groundwater standard for any substance, including substances not specifically limited or monitored under this permit.

### **7.6.2 Groundwater Sampling**

Groundwater sampling shall be performed in accordance with procedures contained in the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96).

### **7.6.3 Indicator Parameter - Preventive Action Limits**

Preventive action limits for indicator parameters are calculated using a minimum of eight sample analysis results available from a representative background well in accordance with the procedures in s. NR 140.20, Wis. Adm. Code.

### **7.6.4 Groundwater Monitoring Forms**

Results of the groundwater analyses shall be summarized and reported on Groundwater Monitoring Forms. This report form is to be returned to the Department no later than the date indicated on the form. A copy of the groundwater monitoring form or an electronic file of the form shall be retained by the permittee. Groundwater monitoring results shall be reported on an electronic groundwater monitoring form and 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.

### **7.6.5 Appropriate Formulas for Groundwater**

Total Nitrogen = Total Kjeldahl Nitrogen (mg/L) + [NO<sub>2</sub> + NO<sub>3</sub>] Nitrogen (mg/L)

Organic Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) - Ammonia Nitrogen (mg/L)

### **7.6.6 Reporting Depth to Groundwater**

Depth to groundwater shall be reported in feet, to the nearest 0.01 foot, below the top of the well casing. A report shall be on file with the Department stating the well casing top elevation in feet above mean sea level (MSL), to the nearest 0.01 foot, for each groundwater monitoring well.

### **7.6.7 Groundwater Elevation**

Groundwater elevations shall be calculated by subtracting the depth to groundwater measurement from the well casing top elevation and shall be reported in feet above mean sea level (MSL) to the nearest 0.01 foot.

### **7.6.8 Groundwater Grab Samples**

Grab samples shall be taken of the groundwater only after adequate removal or purging of standing water within the well casing has been performed. For those wells which will refill with water as fast as the water can be removed by bailing or pumping, four well volumes shall be removed prior to sample collection and analysis. For those wells which will not refill with water as fast as the water can be removed by bailing or pumping, the existing volume of water inside the well casing shall be removed and samples collected after the well has refilled to at least half the original volume in the well.

### **7.6.9 Filtering of Groundwater Samples**

All groundwater monitoring well samples shall be filtered prior to analysis, except for the portion used to measure pH or field specific conductance, which shall be done using an unfiltered sample. While in-field analysis is preferred for these two tests, laboratory analysis done within two hours of sample collection is acceptable. For the portion to be filtered, it is preferred that filtering be performed in the field immediately following sample collection. However, laboratory filtering is acceptable. Filtering shall be performed through a standard 0.45 micron filter.

### **7.6.10 Groundwater Data Log**

A data log shall be used to record the results of all field sampling and analysis events. This log shall include date of sampling event, groundwater sampler's name, well identification, depth from pipetop to water, depth from pipetop to well bottom, time of purging (start to end), volume of water purged, indication of whether the well was purged dry, time of sample withdrawal, and the following applicable field observations: pH, field conductivity, temperature, color, odor and turbidity, indication of whether field filtering was performed and time of filtering, indication of cap and lock replaced, and comments.

### **7.6.11 Notification of Attaining or Exceeding Groundwater Quality Standards**

The permittee shall notify the Department when monitoring results indicate that a Preventive Action Limit or Enforcement Standard has been attained or exceeded. This notification may be provided in the general remarks section of the groundwater monitoring form or by letter attached to the groundwater monitoring form. Any values reported as exceeding a groundwater standard shall be confirmed as being from a representative sample and as a correct laboratory analysis result.

### **7.6.12 Preventive Action Limit (PAL) Exceedance**

Analysis results (from the land treatment monitoring wells) that are less than this permit's PALs indicate that operation of the land treatment system is protective of groundwater quality. Substance concentrations that exhibit a trend over time of being greater than the PAL may indicate that additional technically and economically feasible actions are needed to reduce the discharge of the substance to the groundwater. In such a case, the Department may request an evaluation and response or propose a permit modification to require submittal of a groundwater evaluation report and implementation of a feasible response as specified in NR 140.24(1)(b), Wis. Adm. Code.

### **7.6.13 Enforcement Standard Exceedance Within the Design Management Zone**

Substance concentrations greater than this permit's enforcement standard (ES) in a permittee's monitoring well located within the property boundary and within the design management zone of the land treatment system may indicate that the groundwater concentration exceeds an ES outside of these boundaries. If the Department determines there is reasonable evidence that an ES is being attained or exceeded beyond the property boundary or beyond the

design management zone, the Department may request an evaluation and response or propose a permit modification to require an evaluation report and appropriate response as specified in s. NR 140.27, Wis. Adm. Code.

#### **7.6.14 Enforcement Standard Exceedance Outside the Design Management Zone**

The permittee's land treatment system shall not cause the concentration of a substance in groundwater to attain or exceed this permit's enforcement standard at any point of present groundwater use, at any point beyond the property boundary, or at any point beyond the design management zone established under s. NR 140.22, Wis. Adm. Code. When this condition is not met, **the permittee shall, within 120 days following notification by the Department of the attainment or exceedance of an ES beyond the compliance boundary, submit a groundwater quality evaluation and response report** as specified in NR 140.26(1)(b), Wis. Adm. Code. The Department may propose modification of this permit to require the permittee to implement additional treatment or other actions as specified in s. NR 140.26, Wis. Adm. Code.

### **7.7 Land Application Requirements**

#### **7.7.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations**

In the event that new federal sludge standards or regulations are promulgated, the permittee shall comply with the new 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.

#### **7.7.2 General Sludge Management Information**

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

#### **7.7.3 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.

#### **7.7.4 Land Application Characteristic Report**

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

Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report is true, accurate and complete. The Lab Report must be sent directly to the facility's DNR sludge representative or basin engineer unless approval for not submitting the lab reports has been given.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All results shall be reported on a dry weight basis.

#### **7.7.5 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) =  
[Water Extractable Phosphorus (mg/kg, dry wt) ÷ Total Phosphorus (mg/kg, dry wt)] x 100

### **7.7.6 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.

### **7.7.7 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.

### **7.7.8 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.

### **7.7.9 Approval to Land Apply**

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

### **7.7.10 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.

### **7.7.11 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.

### **7.7.12 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.

### **7.7.13 Vector Control: Specific Oxygen Uptake Rate**

The specific oxygen uptake rate (SOUR) for aerobic sludge shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids on a dry weight basis, corrected to 20° Celsius. See Municipal Wastewater Sludge Guidance Memo #2 (Guidance Notes for Specific Oxygen Uptake Rates on Aerobically Digested Sludge).

### **7.7.14 Vector Control: pH Adjustment**

The pH of the sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 2 hours and then at 11.5 or higher for an additional 22 hours.

### **7.7.15 Class B Sludge - Vector Control: Injection**

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

### **7.7.16 Class B Sludge - Vector Control: Incorporation**

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

### **7.7.17 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.

## 8 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

| Description  | Date  | Page |
|--|---|------|
| Land Treatment Management Plan -Land Treatment Management Plan Submittal | May 1, 2024   | 18   |
| Groundwater Monitoring Well - Installation -Plans and Specifications     | August 1, 2023  | 18   |
| Groundwater Monitoring Well - Installation -Installation                 | April 1, 2024   | 18   |
| Compliance Maintenance Annual Reports (CMAR)                             | by June 30, each year   | 20   |
| General Sludge Management Form 3400-48                                   | prior to any significant sludge management changes  | 31   |
| Characteristic Form 3400-49 and Lab Report                               | by January 31 following each year of analysis   | 31   |
| Land Application Report Form 3400-55                                     | by January 31, each year whether or not non-exceptional quality sludge is land applied  | 32   |
| Other Methods of Disposal or Distribution Report Form 3400-52            | by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied | 32   |
| Groundwater Monitoring Forms.  | no later than the date indicated on the form  | 29   |
| Annual Land Treatment Reports  | by January 31st of each year for the previous calendar year   | 29   |
| Wastewater Discharge Monitoring Report                                   | no later than the date indicated on the form  | 19   |

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:  
South Central Region, 3911 Fish Hatchery Road, Fitchburg, WI 53711-5397