WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Dane County Regional Airport

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
4000 International Ln
to

West Branch of Starkweather Creek

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 _____
Nate Willis, Wastewater Engineer
Bureau of Water Quality

_____04/29/2022_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - May 01, 2022 **EXPIRATION DATE - April 30, 2027**

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1 Applicability

1.1 Permitted Area

This permit covers areas at Dane County Regional Airport within the jurisdiction of Dane County, contributing to discharges from the airport's separate storm sewer system. Separate storm sewer system means a conveyance or system of conveyances including storm sewers, roads with drainage systems, roadways, catch basins, curbs, gutters, ditches, constructed channels or storm drains. The permitted area consists of the area delineated within the regulated activity boundary shown on airport drainage area base map (Attachment D of the WPDES permit reissuance application).

1.2 Responsibilities

Dane County, as the owner and airport authority, shall be the permittee, and shall coordinate the activities of the airport tenants to achieve permit compliance. Dane County is responsible for supervising airport tenants on the following:

(a) Compliance with permit conditions relating to discharges from the separate storm sewer system

(b) Storm water pollution prevention plan implementation on portions of the separate storm sewer system within the permitted area

(c) Collection of monitoring data required in sections 4 and 5.

(d) Compliance with annual reporting requirements as specified in section 3.5.

2 Authorized Discharges

2.1 Storm Water Discharges - General

This permit authorizes storm water point source discharges to waters of the State from the separate storm sewer system in the permitted area. This permit authorizes the discharge of storm water associated with industrial activity as specified in s. 2.2. Stormwater flows may be commingled with flows contributed by industrial wastewater sources outlined in s. 2.2, provided such discharges are regulated under this or other WPDES permits or are not significant sources of pollutants.

This permit regulates storm water point source discharges to waters of the State from the permitted area upstream from the outfalls listed below:

- 001 Starkweather Creek: Influent pump station bypass of glycol recovery system storage tanks.
- 002 Sanitary Sewer: Effluent pump station discharge into 36 inch sanitary interceptor sewer.
- 034 Starkweather Creek: Effluent pump station discharge into 4 inch discharge pipe.
- 003 - 038 Starkweather Creek: Perimeter of the Airport Property.

There are several drainage areas at the airport, with 38 storm sewer outfalls into Starkweather Creek. Outfall 003 and 032 are monitoring locations selected as representative of airport runoff. Outfall 001 is the discharge point for the bypass into Starkweather Creek of uncontaminated runoff. Outfall 002 is the sanitary sewer discharge from the glycol recovery system storage tanks that collect contaminated runoff from glycol management area during the deicing season. Outfall 034 is a discharge from the glycol recovery system storage tanks to Starkweather Creek if the runoff collected is determined to be uncontaminated based on monitoring.

2.2 Industrial Wastewater & Storm Water Discharges

This permit regulates both industrial storm water discharges (outside wet weather/precipitation discharges) as well as industrial wastewater discharges (dry weather discharges) to the airport's separate storm sewer system. These discharges include the following:

(a) Deicing and anti-icing activities (Outfalls 001, 002, 034)

(b) Oil and water separators (Sampling Points 101 and 102)

(c) Aircraft and pavement washwater activities (Best Management Practices via SWPPP)

2.3 Prohibited Discharges

Discharges of pollutants to the separate storm sewer system are prohibited, unless the discharge is an industrial storm water discharge or industrial wastewater discharge authorized from the five activities identified in section 2.2 or a source listed in section 2.4 (d) or allowed under a separate WPDES permit. To eliminate prohibited discharges, the permittee shall do all of the following:

(a) Maintain adequate authority to prevent prohibited non-storm water discharges from its tenants and enforce sanctions when prohibited non-storm water discharges occur.

(b) Send copies of the fact sheet and permit to the tenants and companies that directly manage the activities regulated under this permit and further notify each tenant or management company of prohibited discharges and the operational requirements in this permit.

(c) Evaluate all separate storm sewer system outfalls for prohibited discharges and illicit connections. Methods may include a review of as-built schematics or drainage plans of the storm water collection system, end of pipe screening during dry weather, dye testing, physical inspection of the storm water collection system, or other appropriate monitoring methods. The methods shall be identified in a written document explaining how this evaluation will be completed, the equipment used for investigation and the rationale for investigatory methods. Continued inspections for prohibited non-storm water discharges shall be completed at least once per permit term, and the results documented and submitted to the department with the corresponding End of Season Annual Summary. See s. 6.4.

2.4 Exclusions

Excluded from coverage under this permit are the following:

(a) Areas located on Dane County Regional Airport property, which are segregated from the industrial activities associated with the airport not requiring storm water pollution prevention, such as office building, parking lots, and undeveloped areas.

(b) Pollutants from areas off site or upstream from the permitted area which discharge into the separate storm sewer system. However, the permittee is required to monitor and track the pollutants coming into the system through Sampling Point 602.

(c) Non-storm water discharges, as listed below, that are not considered illicit discharges, unless identified by either the permittee or the department as a significant source of pollutants to waters of the State.

1. Landscape irrigation
2. Diverted stream flows
3. Uncontaminated ground water infiltration
4. Uncontaminated pumped ground water
5. Discharges from potable water sources
6. Foundation drains
7. Air conditioning condensate
8. Irrigation water
9. Lawn watering
10. Individual private vehicle washing
11. Flows from riparian habitats and wetlands
12. Fire fighting

3 Storm Water Pollution Prevention Plan

3.1 Implementation

The permittee shall implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with s. NR 216.27, Wis. Adm. Code. If the SWPPP does not include glycol management controls and other practices that comply with this permit, the SWPPP shall be updated to comply with the requirements of this permit. If there is a change in operations, the permittee shall incorporate those changes into the SWPPP. The SWPPP shall address glycol management controls and shall be updated and revised as necessary to comply with the terms of this WPDES permit.

For pavement and aircraft washwaters, the permittee shall assess the source of pollutants associated with these activities and incorporate best management practices (BMPs) in order to minimize the environmental impact. The permittee is required to develop BMPs such as washing and rinsing methods, minimizing runoff, and selecting appropriate washing materials. Reporting on the effectiveness of these BMPs is required with the End of Season Annual Summary specified in s. 3.5.

3.2 Glycol Management

The permittee shall evaluate glycol collection and storage systems including the use of deicing pads, discharge or recycling options, and any emerging technologies in glycol management controls. When conditions warrant the construction of permanent infrastructure for glycol management, the airport shall incorporate them into the design during the airport expansion plans.

The glycol management area shall consist of all locations where glycol is applied to aircraft at the airport terminal and all ramps where deicing occurs. The permittee shall minimize the size of the glycol management areas in order to minimize the volume of contaminated storm water runoff that must be captured and discharged into the sanitary sewer.

Bypassing during the deicing season is permitted if the criteria described in paragraph 5.2.6.2 are met.

The permittee shall review other deicing or anti-icing chemicals and emerging glycol recovery technologies on an annual basis and submit the results of this review with the End of Season Annual Summary (See Section 3.5 below).

Facilities for glycol controls must receive department plan approval if they fall under the description of a reviewable wastewater treatment system project, in accordance with ch. NR 108, Wis. Adm. Code. Submit plans for any wastewater storage structures, sewer system modifications, temporary pilot systems, or any other runoff management facilities that would be reviewable. Allow 90 days for department approval of the plans, prior to construction.

3.3 Prohibited Discharge Inspection

The permittee shall perform and document a comprehensive airport site inspection. The inspection shall verify that the site drainage conditions and potential pollution sources identified in the storm water pollution prevention plan remain accurate, that the best management practices prescribed in the plan are being implemented, properly operated, and maintained. Document the date of inspection, inspector, summary of observations, and if any amendments are needed to the storm water pollution prevention plan. The inspection shall be conducted during the deicing season when deicing and anti-icing activities are occurring to observe the management practices.

3.4 End of Season Annual Summary

The permittee shall prepare an end of season annual summary consisting of items (a) through (l) listed below, and any other information in support of documenting permit compliance. The end of season annual report shall include one deicing season within a 12-month period from July 1 through June 30. The summary shall consist of a written report, submitted no later than September 30th. The end of season annual summary shall include the following items:

(a) An update on the glycol management including information on glycol collection, storage, disposal, usage amounts, pollutant loadings, fugitive amount, recovery efficiency, conservation practices, weather conditions, and operational issues. See section 5.2.9.6 of this permit for more information on the level of detail regarding pollutant loading that should be submitted.

(b) Site map revisions where necessary to identify of any new outfalls, sampling points, structural controls, or other noteworthy changes in the storm water pollution prevention plan.

(c) Assessment of the effectiveness of best management practices, and whether any amendments are proposed to the storm water pollution prevention plan to address operational issues.

(d) Describe what follow-up was taken in response to any issues identified in the annual inspection, visual quarterly inspections, and non-storm water discharge inspection (if conducted that year).

(e) A summary of the monitoring data collected from Sampling Points 101, 102, 003, 032, 602, 603, and data associated with deicing discharges from Outfall 001, along with the length of the deicing season. The summary should specify the week that the deicing season started and the week that the deicing season ended. The deicing season begins once deicing products are applied to aircraft and ends when deicing products are no longer being applied to aircraft. The visual inspection notes do not have to be submitted (retain them on site), but in instances where unusual or unexpected observations were noted, summarize what was observed and the suspected cause.

1. A narrative description shall be provided of each storm event which is sampled, including the date and duration of the storm, precipitation amount (if snowfall include inches of snow and rainfall equivalent), and an estimate of the total volume of storm water discharged.

(f) Observations on receiving water quality improvements or degradation resulting from airport activities.

(g) A general fiscal summary of the deicing season expenditures for the permittee's storm water prevention plan, which includes the following:

1. The expenditures for the deicing season with a breakdown of expenses for the major components.
2. The budget for the upcoming deicing season with a breakdown of expenses for the major components.

(h) The permittee shall certify the airport does not use airfield deicing products that contain urea, in accordance with 40 CFR Part 449.10. This certification may be included with the end of season annual summary under subsection 3.5.

(i) Summary of current alternative deicing chemicals and emerging glycol recovery technologies.

(j) Summary of BMPs that have been implemented in the SWPPP and progress that has been made on total suspended solids and phosphorus reductions at the airport to meet the requirements of the Rock River Basin TMDL (see s. 5.2.3.4).

4 In-Plant Requirements

4.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
101	Wisconsin Air National Guard 115th Fighter Wing fuel farm oil and water separator effluent discharge to an 18-inch storm sewer, Outfall 020.
102	Wisconsin Army National Guard fueling facility oil and water separator effluent discharge to a 42-inch storm sewer, Outfall 036.

4.2 Monitoring Requirements and Limitations

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

4.2.1 Sampling Point 101 - Air National Guard and 102- Army National Guard

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Quarterly	Estimated	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Quarterly	Grab	
Suspended Solids, Total	Daily Max	40 mg/L	Quarterly	Grab	
BOD_5, Total	Monthly Avg	20 mg/L	Annual	Grab	
BETX, Total	Monthly Avg	750 µg/L	Annual	Grab	
PAHs	Monthly Avg	0.1 µg/L	Annual	Grab	
Benzo(a)pyrene	Monthly Avg	0.1 µg/L	Annual	Grab	
Naphthalene	Monthly Avg	70 µg/L	Annual	Grab	

4.2.2 Oil Water Separator Requirements

All requirements in this section apply to the oil water separators regulated under this permit.

4.2.2.1 Applicability

The permittee may discharge into the separate storm sewer system treated storm water discharged from oil and water separators, in accordance with the conditions in this section. The following tenants are operators of oil and water separators that discharge into waters of the state at Dane County Regional Airport:

- Wisconsin Air National Guard
- Wisconsin Army National Guard

4.2.2.2 Flow Estimate

The permittee shall estimate the daily average flow rate of the discharge per sampling event. The flow rate may be estimated by the readings of a water meter on the discharge, readings from a calibrated pump handling the discharge, the total gallons pumped divided by the operating period of the pump per day or any other approved flow estimating

methods in s. NR 218.04(15), Wis. Adm. Code. The permittee may request, in writing, the approval of an additional method for estimating flow.

4.2.2.3 Grab Sample

A grab sample means a single sample taken at one moment of time or a combination of several smaller samples of equal volume taken in less than a two-minute period. Samples shall be collected from oil and water separator effluent prior to discharge to the separate storm sewer system, from each of the oil and water separators at the airport (except those connected to the sanitary sewer).

4.2.2.4 Total BETX

Total BETX shall include a summation of the following individual compounds: benzene, ethylbenzene, toluene and total xylenes.

4.2.2.5 PAH Group of Ten

The permittee shall use EPA test method 610 or other EPA approved method to test for the PAH compounds. The permittee shall demonstrate compliance with the monthly average PAH group limit by reporting no detection of any of these PAH compounds, or by reporting the sum of the PAH group detected amounts equal to or less than 0.1 µg/L. The polycyclic aromatic hydrocarbons (PAHs) shall include a summation of the following ten individual compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.

In determining compliance with the PAH limit of 0.1 µg/L, the permittee shall use the toxicity equivalent factor (TEF) shown in the table below. For calculating the concentration for the PAH group of 10, multiply the concentration of each PAH compound by the corresponding TEF value and the sum the results. For results < LOD, a zero may be used for the concentration.

Toxicity Equivalent Factors for PAH Compounds

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

4.2.2.6 Benzo(a)pyrene

The PAH compound benzo(a)pyrene is regulated separately. The permittee shall use EPA test method 610 or other EPA approved method to test for benzo(a)pyrene. The permittee shall demonstrate compliance with monthly average benzo(a)pyrene limit by reporting no detection of benzo(a)pyrene, or by reporting a detected amount equal to or less than 0.1 µg/L.

4.2.2.7 Naphthalene

The PAH compound naphthalene is regulated separately. The permittee shall use EPA test method 610 or other EPA approved method to test for naphthalene. The permittee shall demonstrate compliance with monthly average

naphthalene limit by reporting no detection of naphthalene, or by reporting a detected amount equal to or less than 70 µg/L.

4.2.2.8 Design Requirements

The oil and water separator shall have sufficient capacity to contain all wastewater discharges and any precipitation resulting from a 10-year, 24-hour storm event, which falls within or flows into the area of disposal or treatment. Plans and specifications for any new oil and water separator shall be submitted to the department prior to construction in accordance with ch. NR 108, Wis. Adm. Code.

4.2.2.9 Operating Requirements

The permittee shall comply with the following:

(a) The oil and water separator treatment controls for petroleum contaminated storm water runoff shall be adequately sized, designed, operated and maintained.

(b) Oil and water separators shall only be used to treat petroleum contaminated storm water runoff. No material (e.g., waste oil or petroleum products contaminated with minor amounts of water) shall be intentionally placed into the system for treatment or storage. All product spills shall be removed from the oil and water separator as soon as is practicable.

(c) Accumulated solids, oil and grease shall be removed on a periodic basis to maintain the hydraulic capacity of the oil and water separator and prevent the carryover of the oil and grease. The water discharge side of the separator (effluent chamber) shall be maintained; there shall be no oil sheen or scum on the water or oil accumulation on the equipment. All removed substances shall be properly disposed of (paragraph 4.2.2.10).

(d) There shall be no leakage from any containment berms, dikes or tanks.

(e) The oil and water separator shall be inspected at least monthly for proper operation.

(f) Document the volume of waste oil recovered, date of removal, who removed it, and the ultimate fate of the waste oil.

(g) For all petroleum storage tanks, submit in the end of season annual summary (subsection 3.5) the following information:

1. Method used to handle and dispose of petroleum storage tank condensate, the volume of condensate discharged, and the frequency of the discharge.
2. If petroleum storage tank condensate is discharged, the condensate shall be analyzed for benzene, ethylbenzene, lead (if lead additives are used), total phenols, toluene, and xylene. Detection of any of the above parameters in the condensate may result in a determination by the department that the discharge is not allowable if it is a significant source of pollutants.

4.2.2.10 Disposal of Waste Oil and Solids

Waste oil and solids removed from the oil and water separator shall be disposed of at a site or operation licensed by the department under chs. NR 500 to 522, Wis. Adm. Codes (solid waste regulations), or chs. NR 600 to 685, Wis. Adm. Codes (hazardous waste regulations). The following documentation shall be maintained on-site regarding the removal and disposal of these wastes: (a) the amount removed, (b) date of removal, (c) person or company who hauled the waste, and (d) disposal site for the waste. A summary of each year's waste removal and disposal shall be submitted with the end of season annual summary (subsection 3.5).

4.2.2.11 Secondary Containment Water

Water that has collected in secondary containment structures at fuel farm storage facilities that consists solely of storm water that has not been mixed with other waste streams, is clean fire suppression water, or other uncontaminated water, can be discharged to groundwater or surface water without treatment provided the following conditions are met:

(a) Upon visual inspection, the wastewater contains no visible oil sheen or film.

(b) The bypass valve is normally sealed close.

(c) The bypass valve is opened after the visual inspection and resealed following drainage of the containment structure.

(d) Records of all discharges of this wastewater and the results of the visual inspections and chemical monitoring are maintained on-site for department inspection.

(e) The discharge flow rate is controlled to prevent erosion and the addition of sediment or turbidity from entering the receiving water.

(f) A representative discharge is monitored once during the first year after coverage under the permit is granted, for the parameters specified in Table 4.2.1. If the concentrations are less than the effluent limits, the discharge of secondary containment water is allowed and additional chemical monitoring is unnecessary for the term of the permit.

Wastewater that has collected in secondary containment structures at fuel farm storage facilities that does not meet the uncontaminated conditions described above, shall be treated and monitored in accordance with table 4.2.1.

If the secondary containment water meets the conditions for a discharge that doesn't require treatment, but is conveyed through the oil/water separator and/or discharged from the sampling point for the oil/water separator, the monitoring requirements and limitations in table 4.2.1 do not apply.

5 Surface Water Requirements

5.1 Sampling Point(s)

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

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
001	Starkweather Creek discharge consisting of the bypassing of storm water runoff around the glycol recovery system storage tanks if the water quality complies with effluent limits.
034	Discharge from the glycol recovery system storage tanks to Starkweather Creek if the water quality complies with effluent limits.
002	Sanitary sewer discharge consisting of contaminated runoff from the glycol management area that is diverted to the glycol recovery system storage tanks.
601	Stream Monitoring required prior to bypassing, to satisfy discharge conditions. Starkweather Creek stream flow is monitored 60 feet downstream from Outfall 001, and dissolved oxygen and temperature are monitored 150 feet upstream of Outfall 001.
003	66-inch storm sewer outfall that discharges into the relocated Starkweather Creek west of the airport. The monitoring location is approximately 1800 feet north of the outfall at Starkweather Creek so other discharges downstream in the storm sewer, which are not regulated under this permit, are excluded.
032	60-inch storm sewer outfall south of terminal that discharges into Starkweather Creek.
021	72-inch storm sewer outfall south of terminal that discharges into Starkweather Creek. Sampling shall occur after the absorbent bags.
602	Starkweather Creek upstream from the Airport at Highway 51 crossing.
603	Starkweather Creek downstream from the Airport approximately 800ft downstream of the Anderson Street crossing.

5.2 Monitoring Requirements and Effluent Limitations

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

5.2.1 Sampling Point (Outfall) 001 - Storage Tank Bypass

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Weekly	Estimated	
BOD_5, Total		mg/L	Weekly	24-Hr Flow Prop Comp	
BOD_5, Total	Weekly Avg - Variable	lbs/day	Weekly	Calculated	
BOD_5, Variable Limit		lbs/day	Weekly	Calculated	
COD		mg/L	Weekly	24-Hr Flow Prop Comp	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Carbon, Total Organic		mg/L	Daily	Continuous	
Suspended Solids, Total	Daily Max	50 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	
Phosphorus, Total	Monthly Avg	0.6 mg/L	Weekly	24-Hr Flow Prop Comp	
Propylene glycol		mg/L	Weekly	24-Hr Flow Prop Comp	
Copper, Total Recoverable		µg/L	Monthly	24-Hr Flow Prop Comp	
Acute WET		TU_a	See Permit Note	24-Hr Flow Prop Comp	5.2.1.1
Chronic WET		TUc	See Permit Note	24-Hr Flow Prop Comp	5.2.1.1
PFAS			Quarterly	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.

5.2.1.1 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Starkweather Creek

Instream Waste Concentration (IWC): 43%

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

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

WET Testing Frequency:

Acute tests are required during the following time periods:

- **Acute:** Three of the following five deicing seasons in which discharge occurs: 2022 – 2023, 2023 – 2024, 2024 – 2025, 2025 – 2026, and 2026 – 2027. If a discharge does not occur during at least three deicing seasons, then the WET test shall be conducted during all deicing seasons in which a discharge does occur.

Chronic tests are required during the following time periods:

- **Chronic:** Three of the following five deicing seasons in which discharge occurs: 2022 – 2023, 2023 – 2024, 2024 – 2025, 2025 – 2026, and 2026 – 2027. If a discharge does not occur during at least three deicing seasons, then the WET test shall be conducted during all deicing seasons in which a discharge does occur.

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

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than **1.0** for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than **2.3** for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

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

5.2.2 Sampling Point (Outfall) 034 - Storage Tank Uncontaminated

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Weekly	Estimated	
BOD_5, Total		mg/L	Weekly	Grab	
BOD_5, Total	Weekly Avg - Variable	lbs/day	Weekly	Grab	
BOD_5, Variable Limit		lbs/day	Weekly	Grab	
COD		mg/L	Weekly	Grab	
Carbon, Total Organic		mg/L	Daily	Continuous	Operational parameter. Report average daily value.
Suspended Solids, Total	Daily Max	50 mg/L	Weekly	Grab	5.2.3
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Phosphorus, Total	Monthly Avg	0.6 mg/L	Weekly	Grab	Interim Limit. See s. 5.2.3
Propylene glycol		mg/L	Weekly	Grab	
Copper, Total Recoverable		µg/L	Monthly	Grab	
Acute WET		TU_a	See Permit Note	Grab	

5.2.2.1 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Starkweather Creek

Instream Waste Concentration (IWC): 43%

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

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

WET Testing Frequency:

Acute tests are required during the following time periods:

- **Acute:** Any one deicing season in which a discharge occurs through this outfall.

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

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than **1.0** for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$.

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

5.2.3 Phosphorus/TSS (Outfalls 001/034)

5.2.3.1 Phosphorus Water Quality Based Effluent Limitation(s)

The final water quality based effluent limit for phosphorus for Outfalls 001/034 are 0.075 mg/L and 0.075 lbs/day as a six-month average and 0.225 mg/L as a monthly average and will take effect per the Compliance Schedule unless:

A. As part of the application for the next reissuance, or prior to filing the application, the permittee submits either: 1.) a watershed adaptive management plan and a completed Watershed Adaptive Management Request Form 3200-139; or 2.) an application for water quality trading; or 3.) an application for a variance; or 4.) new information or additional data that supports a recalculation of the numeric limitation; and
B. The Department modifies, revokes and reissues, or reissues the permit to incorporate a revised limitation before the expiration of the compliance schedule*.

Note: The permittee may also submit an application for a variance within 60 days of this permit reissuance, as noted in the permit cover letter, in accordance with s. 283.15, Stats.

If Adaptive Management or Water Quality Trading is approved as part of the permit application for the next reissuance or as part of an application for a modification or revocation and reissuance, the plan and specifications submittal, construction, and final effective dates for compliance with the total phosphorus WQBEL may change in the reissued or modified permit. In addition, the numeric value of the water

quality based effluent limit may change based on new information or additional data. If a variance is approved for the next reissuance, interim limits and conditions will be imposed in the reissued permit in accordance with s. 283.15, Stats., and applicable regulations. A permittee may apply for a variance to the phosphorus WQBEL at the next reissuance even if the permittee did not apply for a phosphorus variance as part of this permit reissuance. Additional Requirements: If a water quality based effluent limit has taken effect in a permit, any increase in the limit is subject to s. NR 102.05(1) and ch. NR 207, Wis. Adm. Code. When a six-month average effluent limit is specified for Total Phosphorus the applicable averaging periods are May through October and November through April.

**Note: The Department will prioritize reissuances and revocations, modifications, and reissuances of permits to allow permittees the opportunity to implement adaptive management or nutrient trading in a timely and effective manner.*

5.2.3.2 Alternative Approaches to Phosphorus WQBEL Compliance

Rather than upgrading the airport to comply with WQBELs for total phosphorus, the permittee may use Water Quality Trading or the Watershed Adaptive Management Option, to achieve compliance under ch. NR 217, Wis. Adm. Code, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. The permittee may also implement an upgrade to the airport in combination with Water Quality Trading or the Watershed Adaptive Management Option to achieve compliance, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. If the Final Compliance Alternatives Plan concludes that a variance will be pursued, the Plan shall provide information regarding the basis for the variance.

5.2.3.3 Submittal of Permit Application for Next Reissuance and Adaptive Management or Pollutant Trading Plan or Variance Application

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit. If the permittee intends to pursue adaptive management to achieve compliance with the phosphorus water quality based effluent limitation, the permittee shall submit with the application for the next reissuance: a completed Watershed Adaptive Management Request Form 3200-139, the completed Adaptive Management Plan and final plans for any system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the permittee intends to pursue pollutant trading to achieve compliance, the permittee shall submit an application for water quality trading with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading to achieve compliance with the final water quality-based limit, the reissued permit will specify a schedule for the necessary upgrades. If the permittee intends to seek a variance, the permittee shall submit an application for a variance with the application for the next reissuance.

5.2.3.4 Total Maximum Daily Load (TMDL)

Approved TMDL: The Rock River Basin TMDL Waste Load Allocation (WLA) for Total Phosphorus and Total Suspended Solids was approved by the U.S. Environmental Protection Agency on September 28, 2011. The permittee shall implement the Rock River TMDL through percent reductions of 61% for Phosphorus and 73% for TSS. The permittee should demonstrate compliance with these percent reductions through modeling from a “no controls” condition.

Modeled loading only needs to be demonstrated once during the permit term unless amendments to the SWPPP are reasonably expected to significantly affect model results. Refer to the compliance schedule for compliance dates.

5.2.4 Sampling Point (Outfall) 002 - Sanitary Sewer

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	

5.2.5 Sampling Point 601 - Stream Monitoring

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow River	Daily Min	1.0 cfs	Daily	Gauge Station	
Dissolved Oxygen	Daily Min	7.0 mg/L	Daily	Grab	
Temperature		deg C	Daily	Grab	

5.2.6 Glycol Recovery System

5.2.6.1 Operating Requirements

The permittee shall operate the glycol recovery system that serves the glycol management area in accordance with the following conditions:

(a) The glycol management plan of operation shall be followed.

(b) A stream flow rating curve shall be used to provide a means of accurately measuring background stream flow in Starkweather Creek. The gauging station data must be representative of the airport's discharge location at Outfalls 001 and 034. Flow data is necessary for determining compliance with the mass limitation as described in paragraph 5.2.6.4 (d).

(c) The permittee shall monitor Starkweather Creek prior to discharging from Outfall 001and 034 to assure compliance with the limitations for Sampling Point 601 shown in the table 5.2.5. The discharge shall be stopped if a minimum flow of 1 cubic foot per second (cfs) and dissolved oxygen of 7 mg/L are not maintained in Starkweather Creek. Stream monitoring is only required during periods of discharge during the deicing season.

(d) When the deicing season operations begin, the glycol recovery system shall be placed in operation. The deicing operation mode typically occurs from October 1st through May 31st. Contaminated runoff containing glycol shall be collected for storage and discharged to a City of Madison sanitary interceptor sewer at Outfall 002 for treatment at the Madison Metropolitan Sewerage District.

(e) During the deicing season the wastewater may not be discharged into Starkweather Creek at Outfalls 001 or 034 unless the conditions in paragraph 5.2.6.2, 5.2.6.3, or 5.2.6.4 are met.

(f) After the deicing season, when glycol is no longer detectable in the runoff, the glycol recovery system may operate in the bypass mode and discharge directly to Starkweather Creek. This mode of operation is typically from June 1st until September 30th.

5.2.6.2 Bypassing the Storage Tanks

The permittee may bypass the glycol recovery system storage tanks and discharge from Outfall 001 storm water runoff from the glycol management area under the following situations:

(a) Periods outside the deicing season when aircraft deicing fluids and pavement deicers are not in use, and when glycol is no longer present in the runoff. This would typically include the period from June 1st through September 30th, when the storm water runoff is considered uncontaminated.

(b) Storm water runoff during the deicing season, typically from October 1st through May 30th, when it's determined to be uncontaminated. The runoff bypassed is subject to the monitoring requirements and limitations in table 5.2.1 and paragraph 5.2.6.4. Samples shall be collected weekly during dry weather bypassing, and at the start of wet weather bypassing. For bypassing at Outfall 001 to be allowable the wastewater must comply with the following:

1. During dry weather, any base flow in the storm sewer (groundwater infiltration) may be bypassed if at least 24 hours has elapsed since deicing activities last occurred.
2. During wet weather, after the first 0.5 inch of rainfall is collected and discharged into the sanitary sewer, runoff from additional rainfall may be bypassed until deicing activities are resumed.
3. If the effluent monitoring in table 5.2.1 shows that limits were exceeded, the operational criteria for bypassing in 1 and 2 above shall be revised and submitted to the Department for approval.
4. As an alternative to the bypassing criteria in 1 and 2, the permittee may conduct testing to confirm the runoff contains insignificant concentrations of glycol, potassium acetate, or other deicing and anti-icing chemicals to demonstrate compliance with the applicable limitations in table 5.2.1. The test may consist of a representative indicator parameter that can provide timely results. Total organic carbon (TOC) analysis is an acceptable indicator provided a good correlation exists between TOC:BOD_5.

(c) Overflows or bypassing of the glycol recovery system storage tanks containing contaminated runoff that exceeds the effluent limits in table 5.2.1 are not permitted. If the capacity of the glycol recovery system storage tanks approaches capacity during the deicing season, a sufficient volume shall be pumped into the sanitary sewer to provide capacity to prevent the occurrence of an overflow or bypass.

5.2.6.3 Uncontaminated Runoff in the Storage tanks

If it's suspected the glycol recovery system storage tanks collected uncontaminated runoff, and monitoring indicates it's uncontaminated by complying with the effluent limitations in table 5.2.2, the tanks may discharge into Starkweather Creek at Outfall 034.

5.2.6.4 Effluent Limits

The discharge from Outfalls 001 and 034 shall be limited and monitored by the permittee as follows:

(a) The discharge is subject to the general storm water discharge limitations in paragraph 5.2.10.1.

(b) Representative effluent samples of the runoff from the glycol management area or the contents of the glycol storage tanks shall be collected and analyzed as specified in table 5.2.1. Effluent monitoring is only required during periods of discharge. A minimum of one sample per week shall be collected during periods when the glycol storage tank is bypassed via Outfall 001 or discharged to Outfall 034.

(c) TOC (total organic carbon) monitoring may be used as an operational parameter to monitor water quality as a BOD_5 surrogate in order to provide an immediate determination of whether the runoff from the glycol management area is contaminated. Monitoring of TOC during the deicing season shall be continuous at a minimum of once per hour. An actual BOD5 analysis shall be conducted weekly to confirm and refine the correlation. The correlation equation shown below in (d) is subject to change pending any refinements that improve the translation from TOC to BOD.

(d) The allowable BOD_5 effluent mass limits vary depending on the time of year (temperature factor) and stream flow. At higher stream flows, the effluent mass limits will increase proportionally. The BOD_5 and TOC correlation may be used to estimate the BOD_5 for determining compliance with the allowable BOD_5 mass limits. The table below lists the applicable BOD_5 mass limit per 1 cfs of stream flow for each time period, and the allowable BOD_5 concentration with correlating TOC concentration:

Time Period	Mass Load lbs/day BOD_5 per cfs	Calculated Allowable BOD_5 mg/L	Calculated Allowable TOC mg/L
September 1- November 30	11.7	281	152
December 1- February 28	16.4	393	216
March 1 - May 31	13.9	333	182
June 1 - August 31	8.4	201	108

Note: The minimum practical discharge flow for initiating a discharge to Starkweather Creek is 0.005 MGD, which represents one pump cycle of 25 minutes at a flow rate of 200 gpm from the wet well. Using the stream flow, effluent flow, and the TOC monitoring the allowable discharge volume is calculated that will comply with the mass limit.

(e) The allowable BOD_5 concentration is calculated by the following equation:

$$\text{mg/L } BOD_5 = \frac{(\text{lbs/day } BOD_5 \text{ Limit}) \times (\text{cfs Stream Flow})}{(\text{MGD Effluent Flow}) \times (8.34)}$$

Correlation Equation: $BOD_5 = TOC \times 1.778 + 9.8$

(f) The BOD_5 effluent mass limitations in (d) represent 1/3 the assimilative capacity of Starkweather Creek to prevent the significant lowering of water quality and are based on 1/3 of 26 pounds of BOD_5 per day per cfs of stream flow adjusted for temperature.

Note: The Dane County Regional Airport believes there could be an error in the BOD_5 mass limits that were included in May 18, 1994 water quality based effluent limitations memo, and each of the previous WPDES permits. The Department has included four limits in the permit that were adjusted with a temperature multiplier in three-month increments. It's suspected the equation used to characterize the decay process at the low temperatures typical of deicing season discharges was not appropriate, and correcting this error could result in significantly higher mass load limits that are fully protective of water quality (based on the report "Waste Water Deoxygenation at Different Temperatures" by A. E. Zanoni, July 1967). If the Dane County Regional Airport provides scientific evidence and calculations for revised BOD_5 mass limits and demonstrates that the initial permit limits do not reflect the best available scientific information, the mass limits in 5.2.6.4 (d) may be revised accordingly. Revised limits would become effective upon modification of the permit.

5.2.7 Sampling Point (Outfall) 032 - Storm Sewer Outfall 003 - Storm Sewer Outfall

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MG/year	2/Year	Estimated	
BOD_5, Total		mg/L	2/Year	Grab	
COD		mg/L	2/Year	Grab	
Suspended Solids, Total		mg/L	2/Year	Grab	

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Dissolved Oxygen		mg/L	2/Year	Grab	
pH Field		su	2/Year	Grab	
Phosphorus, Total		µg/L	2/Year	Grab	
Propylene glycol		mg/L	2/Year	Grab	
PFAS			Quarterly	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.

5.2.8 Sampling Point 602 - Starkweather Creek Upstream and 603- Starkweather Creek Downstream

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total		mg/L	2/Year	Grab	
COD		mg/L	2/Year	Grab	
Suspended Solids, Total		mg/L	2/Year	Grab	
Dissolved Oxygen		mg/L	2/Year	Grab	
pH Field		su	2/Year	Grab	
Phosphorus, Total		µg/L	2/Year	Grab	
Propylene glycol		mg/L	2/Year	Grab	

5.2.9 Monitoring - Storm Sewers and Starkweather Creek

5.2.9.1 Purpose

Visual inspections would look for obvious problems, and the chemical analysis would provide specific water quality data, both tools for evaluation of the best management practices. The airport shall monitor two representative storm sewer discharges from the airport at Outfalls 003 and 032 for use in evaluating the effectiveness of the storm water pollution prevention plan in controlling the discharge of pollutants that are outside the glycol recovery system. In addition, it's recommended the airport conduct instream monitoring at Sampling Points 602 and 603 for evaluating an instream impact (instream is not a permit requirement).

5.2.9.2 Monitoring Locations

The visual inspections and sample collections shall be taken at storm sewer Outfalls 003 and 032, and Starkweather Creek Sampling Points 602, and 603. Sampling Point 602 is an upstream location on the east side of the Highway 51 crossing. Sampling Point 603 is a downstream location on the south side of Anderson Street crossing.

5.2.9.3 Visual Inspections

Visually inspect the Sampling Points 003, 032, 602, and 603 to characterize the quality of storm sewer outfalls and receiving water discharged during the "first flush" of storm water runoff from representative storms or snow melts. Within the first 30 minutes of when runoff first appears at the monitoring location, or as soon thereafter as practicable, observations of the discharge shall be made. Characterization of runoff quality shall include observations for color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. Documentation shall include the inspection date, inspector, summary of observations, and probable sources of observed storm water pollution.

5.2.9.4 Sampling Procedure

The following requirements apply to Sampling Points 003, 032, 602, and 603 when collecting samples for chemical (non-PFAS) analysis:

(a) Samples shall be collected from storms which are preferably at least 50% of the monthly average precipitation event amount, but no less than 0.1 inch rain. The runoff event sampled shall be at least 72 hours from the previously measurable precipitation event greater than 0.1 inch.

(b) The storm water sample shall be representative of the "first flush" of storm water runoff. When runoff first appears in the outfall or as soon thereafter as practicable, a sample shall be collected during a 30-minute period. A grab sample shall be collected within the first 30 minutes of the runoff for those parameters being analyzed that require a grab sample. A minimum of 3 sample portions, evenly spaced throughout the 30-minute sampling period, shall be collected if the permittee intends on collecting a “composite” sample. As an alternative, a “flow weighted composite” sample for the entire storm water event may be collected in place of the “first flush” composite.

(c) A narrative description shall be provided of each storm event which is sampled, including the date and duration of the storm, precipitation amount (if snowfall include inches of snow and rainfall equivalent), the duration between the storm event sampled and the end of the previous measurable storm of greater than 0.1 inch rainfall, and an estimate of the total volume of storm water discharged.

(d) Approved analytical methods shall be used in accordance with ch. NR 219, Wis. Adm. Code "Analytical Test Methods and Procedures", or guidance on storm water sampling procedures developed by the Department. When no analytical method is approved, a suitable method may be used provided a description of the method is submitted to the department for concurrence prior to sampling.

5.2.9.5 Monitoring Frequency

The permittee shall conduct monitoring during each reporting period of July 1 to June 30, which includes one contiguous deicing season. When a chemical sample is collected, a visual inspection shall be done concurrently. Chemical monitoring samples shall be collected during a deicing or anti-icing event. Additional samples may be collected as necessary for data collection. All monitoring locations shall be sampled during the same storm or snow melt event if possible.

(a) Visual inspections shall be made quarterly every year. At least 2 of the quarterly monitoring dates shall be during a deicing or anti-icing event.

(b) Samples collected for chemical analysis for Sampling Points 003 and 032 shall be collected twice each deicing season and monitored according to table 5.2.7.

(c) Samples collected for chemical analysis for Sampling Points 602 and 603 shall be collected twice each deicing season and monitored according to table 5.2.8. Samples shall consist of the following:

1. A sample shall be collected according to the sampling procedure in paragraph 5.2.9.4.

2. A sample shall be collected when there is a representative discharge from Outfall 001 when the glycol recovery system storage tanks are bypassed during the deicing season (sampling procedures in paragraph 5.2.9.4 do not apply).

5.2.9.6 Pollutant Loading

The permittee shall estimate the annual pollutant loading from spent deicing and anti-icing chemicals discharged from the permitted area into the storm sewer system each deicing season. Data shall be maintained on the following and reported in the end of season annual report under subsection 3.5:

(a) The amount and type of deicer or anti-icer each deicing season reporting period (100% product).

(b) The estimated amount of glycol collected by the glycol recovery system (100% product).

(c) The estimated amount of glycol discharged in runoff to the separate storm sewer system, with a brief description on the how the estimate was calculated (100% product).

(d) The estimated volume of storm water discharged from Outfalls 001, 034, 002, and storm water runoff discharged from storm sewer Outfalls 003 through 033, with a brief description on how the estimate was calculated.

(e) The weather conditions that required deicing or anti-icing, to determine the correlation between the weather and amount of deicer and anti-icer used.

(f) The air traffic, to determine the correlation between air traffic and amount of deicer and anti-icer used. The permittee may determine what the relevant air traffic data is. This is intended to be data that is currently readily available.

5.2.10 Discharge Requirements

5.2.10.1 General Discharge Limitations

Permittees may not discharge from the separate storm sewer system the following substances in amounts that may adversely affect receiving water quality or aquatic life:

(a) Deicing and anti-icing chemicals, including ethylene glycol, propylene glycol, urea, potassium acetate, sodium acetate, and any substitute chemicals.

(b) Solids and sand that may settle to form putrescent or otherwise objectionable sludge or sediment deposits.

(c) Oil, grease, fuel and other floating material that form noticeable accumulations of debris, scum, foam, or sheen.

(d) Color or odor that is unnatural and to such a degree as to create a nuisance.

(e) Toxic substances in toxic amounts to aquatic life, wildlife, or humans.

(f) Nutrients conductive to the excessive growth of aquatic plants and algae to the extent that such growths are detrimental to desirable forms of aquatic life, create conditions that are unsightly, or are a nuisance.

(g) Any other substances that may impair beneficial uses of the receiving water.

5.2.10.2 Glycol Reduction

The design and sizing of the deicing and anti-icing controls for the glycol management area shall be based on cost-effective management controls to reduce glycol discharges to the maximum extent practicable. The permittee shall compare the amount of glycol applied for deicing and anti-icing with the estimated

amount of glycol runoff discharging into the separate storm sewer system, and the amount captured by the glycol recovery system, using the data collected for pollutant loading described in paragraph 5.2.9.6.

5.2.10.3 Fugitive Glycol

The percent of glycol captured and percent discharged will only apply to the glycol draining onto the glycol management area. It is assumed 50% of the total glycol in Type I aircraft deicing fluids (ADFs) and 15% of the glycol in Type IV aircraft anti-icing fluids (AAFs) used on ramps and applied to aircraft will drain to the glycol management area. The other 50% of the glycol in Type I ADF and 85% of glycol in AAF is considered fugitive and cannot be cost effectively captured. Fugitive glycol includes glycol that shears off aircraft upon take-off, glycol that dissipates as vapor into the atmosphere, and glycol used outside the glycol management area. Any reduction in the amount glycol discharged represents the reduction that may result from a maximum of 50% of the total amount of glycol in Type I ADF and 15% of the glycol in Type IV AAF used.

Note: If future data indicates a different value for the fugitive percentage is more accurate, that shall be used. The 50% and 85% numbers are on based upon current findings at several airports and represents the best estimate available.

5.2.11 Sampling Point (Outfall) 021- Storm Sewer Outfall

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PFAS			Quarterly	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.

5.2.12 Per-and polyfluoroalkyl Substances (PFAS)

5.2.12.1 PFAS Monitoring

The permittee shall sample outfalls 001, 003, 032, and 021 for the PFAS identified in the department's PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations (current version at the time of permit reissuance dated March 1, 2021) to verify reductions in the concentrations of the effluent that is leaving the airport.

For all outfalls identified with PFAS monitoring requirements, at least one sample result shall be submitted for both dry and wet weather.

NOTE: For example, the permittee may choose to sample Outfall 001 once during a storm event and submit three dry weather sampling results for the other quarters. Alternatively, the permittee may choose to sample Outfall 021 during two wet weather events and two dry weather events.

5.2.12.2 PFAS Source Reduction Measures

The permittee shall modify the Storm Water Pollution Prevention Plan (SWPPP) to include best management practices (BMPs) which are designed to reduce PFAS discharges from the airport. These BMPs shall include, but not be limited to:

a) Continue source investigation efforts by sampling various locations beyond those explicitly required by this WPDES permit. Any additional PFAS data collected shall be reported to the department in the PFAS BMP Annual Status Update.

b) Mitigate the discharge of PFAS by performing routine inspections of all storm sewers that receive airport runoff, and performing maintenance as necessary. Repair/reline/seal fractures in storm sewer pipes and/or contaminated paved areas.

c) Have controls in place which prevent PFAS-containing aqueous film-forming foam (AFFF) from being released into the environment when its use is deemed necessary and identify how that spent foam is ultimately disposed of.

d) Have a spill response procedure in place.

e) Document the decision-making process when choosing a particular AFFF. This process shall include reviewing environmental data provided by the manufacturer, if available.

f) Document how AFFF is stored, handled, and disposed of onsite, in addition to how testing/training exercises are conducted and how environmental contamination is minimized in these instances.

g) Consider switching firefighting foams used onsite when a fluorine-free alternative that meets the required FAA specifications is available, and avoid purchasing PFOS-based or ≥C8 fluorotelomer-based AFFF.

Note: The permittee is required to comply with s. 299.48, Wis. Stats., and ch. NR 159 Emergency Rule for containment and disposal of Class B firefighting foam.

6 Schedules

6.1 Stormwater Pollution Prevention Plan

Required Action	Due Date
Update SWPPP: The permittee shall update the Storm Water Pollution Prevention Plan to include updated requirements of this WPDES permit and submit to the department for review.	04/30/2023

6.2 End of Season Annual Summary

Required Action	Due Date
End of Season Annual Summary: The permittee shall submit for department review the End of Season Annual Summary in accordance with the WPDES permit which was effective during the 2021-2022 deicing season.	09/30/2022
End of Season Annual Summary #2: The permittee shall submit for department review the End of Season Annual Summary, which must contain at least all of the required information in sections 2.3, 3.1, 3.3, 3.5 and subsections 5.2.6.2 and 5.2.3.4.	09/30/2023
End of Season Annual Summary #3: The permittee shall submit for department review the End of Season Annual Summary, which must contain at least all of the required information in sections 2.3, 3.1, 3.3, 3.5 and subsections 5.2.6.2 and 5.2.3.4.	09/30/2024
End of Season Annual Summary #4: The permittee shall submit for department review the End of Season Annual Summary, which must contain at least all of the required information in sections 2.3, 3.1, 3.3, 3.5 and subsections 5.2.6.2 and 5.2.3.4.	09/30/2025
End of Season Annual Summary #5: The permittee shall submit for department review the End of Season Annual Summary, which must contain at least all of the required information in sections 2.3, 3.1, 3.3, 3.5 and subsections 5.2.6.2 and 5.2.3.4.	09/30/2026
Ongoing End of Season Annual Summaries: In the event this WPDES permit is not reissued by the expiration date, the permittee shall continue to submit Prohibited Water Discharge Inspection Reports by September 30th annually.	

6.3 PFAS BMP Plan

The permittee is required to develop and implement a Best Management Practices plan to address the loadings of PFAS in the discharge.

Required Action	Due Date
Develop BMP Plan: The permittee is required to develop and implement a PFAS BMP plan to identify the sources of PFAS in the discharge and report findings to the WDNR.	12/31/2022
BMP Plan Implementation Status Report 1: The permittee shall submit a status report on the implementation of the PFAS BMP plan.	09/30/2023
BMP Plan Implementation Status Report 2: The permittee shall submit a status report on the implementation of the PFAS BMP plan.	09/30/2024

BMP Plan Implementation Status Report 3: The permittee shall submit a status report on the implementation of the PFAS BMP plan.	09/30/2025
BMP Plan Implementation Status Report 4: The permittee shall submit a status report on the implementation of the PFAS BMP plan.	09/30/2026
Ongoing BMP Status Reports: In the event that this permit is not reissued by the permit expiration date, the permittee shall continue to submit ongoing BMP status reports by September 30th each year.	

6.4 Prohibited Discharge Inspections

Required Action	Due Date
Preliminary Prohibited Discharge Inspection Report: The methods for determining onsite prohibited discharges shall be identified in preliminary report explaining how the evaluation will be completed, the equipment used for investigation and the rationale for investigatory methods.	09/30/2022
Prohibited Discharge Inspection Report: The permittee shall evaluate all storm water outfalls for prohibited contributions and illicit connections. Methods may include a review of as-built schematics or drainage plans of the storm water collection system, end of pipe screening during dry weather, dye testing, physical inspection of the storm water collection system, or other appropriate monitoring. The results of this inspection shall be summarized and submitted to the department.	09/30/2023
Ongoing Prohibited Discharge Inspections: In the event this WPDES permit is not reissued by the expiration date, the permittee shall continue to submit Prohibited Water Discharge Inspection Reports by September 30th once per permit term.	

6.5 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare and submit to the Department for approval an operational evaluation report. The report shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications that will optimize reductions in phosphorus discharges during the period prior to complying with final phosphorus WQBELs and, where possible, enable compliance with final phosphorus WQBELs by 05/01/2025. The report shall provide a plan and schedule for implementation of the measures, improvements, and modifications as soon as possible, but not later than 05/01/2025 and state whether the measures, improvements, and modifications will enable compliance with final phosphorus WQBELs. Regardless of whether they are expected to result in compliance, the permittee shall implement the measures, improvements, and modifications in accordance with the plan and schedule specified in the operational evaluation report. If the operational evaluation report concludes that the facility can achieve final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the permittee shall comply with the final phosphorus WQBELs by 05/01/2025 and is not required to comply with the milestones identified below for years 3 through 7 of this compliance schedule ('Preliminary Compliance Alternatives Plan', 'Final Compliance	09/30/2023

Alternatives Plan', 'Final Plans and Specifications', 'Upgrade to Meet WQBELs', 'Complete Construction', 'Achieve Compliance'). STUDY OF FEASIBLE ALTERNATIVES - If the Operational Evaluation Report concludes that the permittee cannot achieve final phosphorus WQBELs/WLAs with source reduction measures, operational improvements and other minor facility modifications, the permittee shall initiate a study of feasible alternatives for meeting final phosphorus WQBELs and comply with the remaining required actions of this schedule of compliance. If the Department disagrees with the conclusion of the report, and determines that the permittee can achieve final phosphorus WQBELs using only source reduction measures, operational improvements, and minor facility modifications, the Department may reopen and modify the permit to include an implementation schedule for achieving the final phosphorus WQBELs sooner than 05/01/2029.	
Compliance Alternatives, Source Reduction, Improvements and Modifications Status: The permittee shall submit a 'Compliance Alternatives, Source Reduction, Operational Improvements and Minor Facility Modification' status report to the Department. The report shall provide an update on the permittee's: (1) progress implementing source reduction measures, operational improvements, and minor facility modifications to optimize reductions in phosphorus discharges and, to the extent that such measures, improvements, and modifications will not enable compliance with the WQBELs, (2) status evaluating feasible alternatives for meeting phosphorus WQBELs.	09/30/2024
Preliminary Compliance Alternatives Plan: The permittee shall submit a preliminary compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment facility is necessary to achieve final phosphorus WQBELs, the submittal shall include a preliminary engineering design report. If the plan concludes Adaptive Management will be used, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 without the Adaptive Management Plan. If water quality trading will be undertaken, the plan must state that trading will be pursued.	03/31/2025
Final Compliance Alternatives Plan: The permittee shall submit a final compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment is necessary to meet final phosphorus WQBELs, the submittal shall include a final engineering design report addressing the upgrades. If the plan concludes Adaptive Management will be implemented, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 and an engineering report addressing any treatment system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the plan concludes water quality trading will be used, the submittal shall identify potential trading partners. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2025
Progress Report on Plans & Specifications: Submit progress report regarding the progress of preparing final plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	03/31/2026
Final Plans and Specifications: Unless the permit has been modified, revoked and reissued, or reissued to include Adaptive Management or Water Quality Trading measures or to include a revised	09/30/2026

schedule based on factors in s. NR 217.17, Wis. Adm. Code, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below. (Note: Permit modification, revocation and reissuance, and reissuance are subject to s. 283.53(2), Stats.) Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	
Upgrades to Meet WQBELs: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the upgrades in accordance with the approved plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2027
Construction Upgrade Progress Report #1: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	03/31/2028
Construction Upgrade Progress Report #2: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2028
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	04/30/2029
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	05/01/2029

6.6 Alternative TOC Operational Evaluation

Required Action	Due Date
Submit TOC Operational Evaluation: The permittee shall submit for department review an alternative operational evaluation report outlining the economic and operational feasibility of changing current TOC equipment to a different continuous or semi-continuous sampling technology which provides a more established correlation to BOD5 and/or other pollutants (such as total phosphorus).	09/30/2026

7 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), 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(3).

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 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 BOD_5 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 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, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

7.1.6 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.

7.1.7 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

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

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

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

A scheduled bypass approved by the Department 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 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass 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.

7.2.3 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 unscheduled bypassing 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.

7.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater 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 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 wastewater treatment facility records and such records shall be available to the department on request.

7.2.5 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.

7.2.6 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).

7.2.7 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

7.2.8 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

7.2.9 Duty to Halt or Reduce Activity

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

7.3 Surface Water Requirements

7.3.1 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.

7.3.2 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.

7.3.3 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.

7.3.4 Visible Foam or Floating Solids

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

7.3.5 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.

7.3.6 Compliance with Phosphorus Limitation

Compliance with the concentration limitation for phosphorus shall be determined as a rolling twelve-month average and shall be calculated as follows:

First, determine the pounds of phosphorus for an individual month by multiplying the average of all the concentration values for phosphorus (in mg/L) for that month by the total flow for the month in Million Gallons times the conversion factor of 8.34.

Then, the monthly pounds of phosphorus determined in this manner shall be summed for the most recent 12 months and inserted into the numerator of the following equation.

$$\text{Average concentration of P in mg/L} = \frac{\text{Total lbs of P discharged (most recent 12 months)}}{\text{Total flow in MG (most recent 12 months)} \times 8.34}$$

The compliance calculation shall be performed each month with a reported discharge volume after substituting data from the most recent month(s) for the oldest month(s). A calculated value in excess of the concentration limitation will be considered equivalent to a violation of a monthly average.

7.3.7 Additives

In the event that the permittee wishes to commence use of a water treatment additive, or increase the usage of the additives greater than indicated in the permit application, the permittee must get a written approval from the Department prior to initiating such changes. This written approval shall provide authority to utilize the additives at the specific rates until the permit can be either reissued or modified in accordance with s. 283.53, Stats. Restrictions on the use of the additives may be included in the authorization letter.

7.3.8 Whole Effluent Toxicity (WET) Monitoring Requirements

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

7.3.9 Whole Effluent Toxicity (WET) Identification and Reduction

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

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;

- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:

  (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  (b) Identify the compound(s) causing toxicity
  (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
  (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;

- If no actions have been taken, the reason for not taking action.

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

8 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Stormwater Pollution Prevention Plan -Update SWPPP	April 30, 2023	24
End of Season Annual Summary -End of Season Annual Summary	September 30, 2022	24
End of Season Annual Summary -End of Season Annual Summary #2	September 30, 2023	24
End of Season Annual Summary -End of Season Annual Summary #3	September 30, 2024	24
End of Season Annual Summary -End of Season Annual Summary #4	September 30, 2025	24
End of Season Annual Summary -End of Season Annual Summary #5	September 30, 2026	24
End of Season Annual Summary -Ongoing End of Season Annual Summaries	See Permit	24
PFAS BMP Plan -Develop BMP Plan	December 31, 2022	24
PFAS BMP Plan -BMP Plan Implementation Status Report 1	September 30, 2023	24
PFAS BMP Plan -BMP Plan Implementation Status Report 2	September 30, 2024	24
PFAS BMP Plan -BMP Plan Implementation Status Report 3	September 30, 2025	25
PFAS BMP Plan -BMP Plan Implementation Status Report 4	September 30, 2026	25
PFAS BMP Plan -Ongoing BMP Status Reports	See Permit	25
Prohibited Discharge Inspections -Preliminary Prohibited Discharge Inspection Report	September 30, 2022	25
Prohibited Discharge Inspections -Prohibited Discharge Inspection Report	September 30, 2023	25
Prohibited Discharge Inspections -Ongoing Prohibited Discharge Inspections	See Permit	25
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Operational Evaluation Report	September 30, 2023	25
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Compliance Alternatives, Source Reduction, Improvements and Modifications Status	September 30, 2024	26
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Preliminary Compliance Alternatives Plan	March 31, 2025	26
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Compliance Alternatives Plan	September 30, 2025	26
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Progress Report on Plans & Specifications	March 31, 2026	26
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Plans and Specifications	September 30, 2026	27
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Upgrades to Meet WQBELs	September 30, 2027	27

Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #1	March 31, 2028	27
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #2	September 30, 2028	27
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Complete Construction	April 30, 2029	27
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Achieve Compliance	May 1, 2029	27
Alternative TOC Operational Evaluation -Submit TOC Operational Evaluation	September 30, 2026	27
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	28

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