

Permit Modification Fact Sheet

Changes from the previous permit fact sheet are highlighted in grey.

General Information

Permit Number:	WI-0028843-11-1	
Permittee Name:	VILLAGE OF WEBSTER	
Address:	PO Box 25	
City/State/Zip:	WEBSTER WI 54893	
Discharge Location:	SE ¼ NW ¼ of Section 16, T39N-R16W southeast of the Village of Webster	
Receiving Water:	A ditch tributary to the Clam River within the Clam River watershed in the St. Croix River Drainage basin in Burnett County	
StreamFlow (Q _{7,10}):	The ditch has a low flow of 0 cfs at a culvert 1.2 miles southeast of Webster	
Stream Classification:	The ditch tributary is divided into two sections, UT1 and UT2. Both are classified in chs. NR 102 and 104 Wis. Adm. Code, as limited aquatic life (LAL) surface waters. UT2 has a natural community of a cool – warm headwater. The Clam River is classified as a warm water sport fish (WWSF) community. It is an exceptional resource water (ERW) approximately 1.3 mile downstream of the outfall. Non-public water supply.	
Wild Rice Impacts: (no specific wild rice standards exist at this time)	No impacts identified at this location. Wild rice waters are not inventoried near the outfall (Evaluation completed March 2017)	
Discharge Type:	Seasonal – April, May, September, October and November	
Design Flow(s)	Annual Average	0.085 MGD
Significant Industrial Loading?	Nexen, a metal finisher (SIU code 3568). There is also an RV dump station maintained by the Village that can be very high strength, sometimes nearing the strength of septage.	
Operator at Proper Grade?	Yes	
Approved Pretreatment Program?	N/A	

Facility Description

The Village of Webster owns and operates a domestic wastewater treatment system. The plant designed to treat 85,000 gallons per day currently treats an average of 52,000 gallons per day. The treatment system consists of three stabilization ponds operated one after another (in series). Within these ponds naturally occurring bacteria and organisms already present in the wastewater metabolize organic matter. The permittee is authorized to discharge as a fill and draw system during the months of April, May, September and October. Effluent is discharged to a drainage ditch (approximately one mile long) that empties into the Clam River in Burnett County.

Substantial Compliance Determination

Enforcement During Last Permit: There have been several minor violations of effluent limits and late reporting. However, the facility has taken the necessary steps to correct their actions, and nothing further is required.

After a desk top review of all discharge monitoring reports, CMARs, and a site visit on 9/13/23, by Eric de Venecia, WDNR, the Village of Webster has been found to be in substantial compliance with their current permit.

Compliance determination entered by Eric de Venecia on October 9, 2023.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)
701	INFLUENT An average of 0.052 MGD (2019-2023 data)	Representative influent samples shall be collected immediately before the wastewater enters the comminutor at the main lift station.
002	EFFLUENT An average of 0.321 MGD Discharges average 39 days per year. (2019-2023 data)	Representative samples shall be collected at the V-notch weir in the control building. The permittee is authorized to discharge to a drainage ditch tributary to the Clam River within the St. Croix River drainage basin on a fill and draw basis April, May, September, October and November.
003	SLUDGE Sludge has not been removed from the facility and is not scheduled for this permit term.	Representative samples shall be collected from the accumulated sludge from the stabilization ponds at various locations and depths that are composited for analysis.

1 Influent – Monitoring Requirements

Sample Point Number: 701- INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	2/Month	Grab	
Suspended Solids, Total		mg/L	2/Month	Grab	

Changes from Previous Permit

Effluent limitations and monitoring requirements were re-evaluated for the proposed permit term and no changes were required in this permit section. Sampling requirements and frequencies are the same as the previous permit.

Explanation of Limits and Monitoring Requirements

The parameters are standard for minor municipalities, as are monitoring and frequency requirements for municipal wastewater treatment plant. Tracking of BOD5, and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code.

2 Surface Water - Monitoring and Limitations

Sample Point Number: 002- EFFLUENT DISCHARGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
BOD5, Total	Weekly Avg	45 mg/L	Weekly	Grab	INTERIM LIMIT - See the "Effluent Limits for BOD5" schedule.
BOD5, Total	Monthly Avg	30 mg/L	Weekly	Grab	INTERIM LIMIT - See the "Effluent Limits for BOD5" schedule.
BOD5, Total	Weekly Avg	30 mg/L	Weekly	Grab	Final limit becomes effective April 1, 2028. per the "Effluent Limitations for BOD5" schedule.
BOD5, Total	Monthly Avg	20 mg/L	Weekly	Grab	Final limit becomes effective April 1, 2028. per the "Effluent Limitations for BOD5" schedule.
Suspended Solids, Total	Monthly Avg	60 mg/L	Weekly	Grab	
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Dissolved Oxygen	Daily Min	4.0 mg/L	Weekly	Grab	
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	Weekly	Grab	Enter the daily ammonia result on the eDMR and compare to the Nitrogen, Ammonia Variable Limit to determine compliance.
Nitrogen, Ammonia Variable Limit		mg/L	Weekly	See Table	Using the daily pH result look up the applicable ammonia limit in the "Ammonia Limitation" subsection in the permit and report the variable limit on the eDMR.
Phosphorus, Total	Monthly Avg	5.6 mg/L	Weekly	Grab	INTERIM LIMIT - See the "Phosphorus" schedule.
Phosphorus, Total	Monthly Avg	1.0 mg/L	Weekly	Grab	Final limit becomes effective April 1, 2028. per

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					the "Phosphorus" schedule.
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See the "Total Maximum Daily Load (TMDL) Limitations" subsection in the permit.
Phosphorus, Total		lbs/yr	Annual	Calculated	Calculate the annual total sum of total monthly mass of phosphorus discharged. See the "Total Maximum Daily Load (TMDL) Limitations" subsection in the permit for more information.
PFOS		ng/L	See Permit Note	Grab	Monitoring only. See "PFOS Minimization Plan Requirements" permit section and "PFOS Minimization Plan" Schedule.
PFOA		ng/L	See Permit Note	Grab	Monitoring only. See "PFOS Minimization Plan Requirements" permit section and "PFOS Minimization Plan" Schedule.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	Grab	See the "Nitrogen Series Monitoring" subsection for testing schedule.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	Grab	See the "Nitrogen Series Monitoring" subsection for testing schedule.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Total Nitrogen = Total Nitrogen Kjeldahl (mg/L) + Nitrite + Nitrate Nitrogen (mg/L). See the "Nitrogen Series Monitoring" subsection for testing schedule.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Acute WET		TUa	See Listed Qtr(s)	Grab	See the "Whole Effluent Toxicity Testing" footnote for more information.
Chronic WET		TUc	See Listed Qtr(s)	Grab	See the "Whole Effluent Toxicity Testing" footnote for more information.

Changes from Previous Permit

Effluent limitations and monitoring requirements were re-evaluated for the permit term and the following changes were made from the previous permit.

- A **Flow** limit is not included this permit term.
- **BOD₅** limits have been replaced by effluent limits as described in s. NR 104.02(3)(b), Wis. Adm. Code. The final effluent limit compliance date has been changed; see the "Effluent Limits for BOD₅" schedule.
- A **Phosphorus** technology based effluent limit and schedule have been added this permit term. The final effluent limit compliance date has been changed; see the "Phosphorus" schedule.
- **PFOS** and **PFOA** monitoring have been included this permit term. The PFOS/PFOA monitoring frequency has been decreased to monthly during periods of discharge. See the permit for details. Language requiring the implementation of a PFOS Minimization Plan has been added to the permit.
- Annual monitoring for the **Nitrogen Series** (nitrate +nitrite, total Kjeldahl nitrogen and total nitrogen) has been added to the permit. The “quarters” (April – May and October – November) in which total nitrogen monitoring is required (in 2026, 2027, and 2028) have been changed to better align with actual discharge periods. See the permit for details.
- Two acute and chronic **WET Tests** are required during the permit term.

Explanation of Limits and Monitoring Requirements

Information on categorical and water quality-based limits (WQBEL) is found in the “Water Quality-Based Effluent Limitations for the Village of Webster (WI-0028843)” memo dated December 8, 2023.

Discharge season - During previous permit issuances the facility was authorized to discharge on a fill-and-draw basis during April, May, September, and October or on a continuous basis during the remainder of the year. Since 2003 the facility has operated on a fill-and-draw basis. Limits associated with a continuous discharger have been removed from this permit reissuance and the month of November has been added to the months discharge is allowed. All samples shall be taken during normal operating conditions; therefore, monitoring is required only during periods of discharge.

Flow – In the previous permit issuance the facility was given variance limits for flow and BOD₅ per s. NR 104.02(4)(c), Wis. Adm. Code. Re-evaluation has determined that the permittee doesn’t fit all required conditions and a variance is not applicable. The flow limit has been removed.

BOD₅ - In the previous permit issuance the facility was given variance limits for flow and BOD₅ per s. NR 104.02(4)(c), Wis. Adm. Code. Re-evaluation has determined that the permittee doesn’t fit all required conditions and a variance is not applicable. Limits that are protective of LAL communities are a weekly average of 30 mg/L and a monthly average of 20 mg/L. The facility is unable to meet the limits consistently, therefore, interim limits of 45 mg/L weekly average and 30

mg/L monthly average and a schedule have been included this permit reissuance. Final limits will begin at the end of the schedule.

Total Suspended Solids (TSS) – April 2002, the permittee was granted an effluent limit variance of 60 mg/L as described in s. NR 210.07(2), Wis. Adm. Code applicable for aerated lagoons or stabilization ponds. The current treatment quality is believed to be similar to when the limit was implemented, therefore, the monthly average shall continue during the reissued permit.

pH - Categorical limits for pH are required per ch. NR 210 (Subchapter II).

Dissolved Oxygen - Categorical limits for Dissolved Oxygen in a Limited Aquatic Life (marginal surface waters) are found in NR 104.02(3)(b) and 210.05(3) Wis. Adm. Code.

Ammonia – Daily - Using current acute and chronic ammonia toxicity criteria found in Tables 2C and 4B of NR 105 Wis. Adm. Code and limit calculating procedures (Subchapter IV of 106, Wis. Adm. Code ammonia limitations were calculated for the facility. The facility had variable limits during the previous permit term, they continue to be protective of the receiving water and continue through this permit term. Sample results for pH shall be used to calculate the daily variable limit. Total ammonia (NH₃-N) sampling shall occur on the same day pH levels are monitored. The applicable variable limit shall be recorded on the Electronic Discharge Monitoring Report (eDMR) in the Ammonia Variable Limit column. Report the effluent ammonia sample result in the ‘Nitrogen, Ammonia (NH₃-N) Total’ column. Compare the variable daily maximum ammonia limit to the reported ammonia result, record the number of exceedances in the box to the right of the ‘Limit in Effect’ ‘Daily Max’ row in the ‘Summary’ tables at the end of the eDMR.

The variable limit table remains the same as the previous permit term, but the table has been expanded to include limits from the pH range of 6.0 – 9.0 s.u.

Daily Maximum Ammonia Nitrogen Limits – LAL Community

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.0 ≤ pH ≤ 6.1	83	7.0 < pH ≤ 7.1	51	8.0 < pH ≤ 8.1	11
6.1 < pH ≤ 6.2	82	7.1 < pH ≤ 7.2	46	8.1 < pH ≤ 8.2	8.8
6.2 < pH ≤ 6.3	80	7.2 < pH ≤ 7.3	40	8.2 < pH ≤ 8.3	7.3
6.3 < pH ≤ 6.4	78	7.3 < pH ≤ 7.4	35	8.3 < pH ≤ 8.4	6.0
6.4 < pH ≤ 6.5	75	7.4 < pH ≤ 7.5	31	8.4 < pH ≤ 8.5	5.0
6.5 < pH ≤ 6.6	72	7.5 < pH ≤ 7.6	26	8.5 < pH ≤ 8.6	4.1
6.6 < pH ≤ 6.7	69	7.6 < pH ≤ 7.7	22	8.6 < pH ≤ 8.7	3.4
6.7 < pH ≤ 6.8	65	7.7 < pH ≤ 7.8	19	8.7 < pH ≤ 8.8	2.8
6.8 < pH ≤ 6.9	60	7.8 < pH ≤ 7.9	16	8.8 < pH ≤ 8.9	2.4
6.9 < pH ≤ 7.0	56	7.9 < pH ≤ 8.0	13	8.9 < pH ≤ 9.0	2.0

Ammonia Weekly and Monthly Limits - Based on this comparison between effluent 99th upper percentile (P99) during each month with the daily maximum limit show there is no reasonable potential for the discharge to exceed any of the calculated ammonia nitrogen limits. Weekly and monthly average ammonia nitrogen limits are not included this permit term.

Phosphorus - Phosphorus requirements are based on the Phosphorus Rules as detailed in NR 102 (water quality standards) and NR 217, Wis. Adm. Code (effluent standards and limitations for phosphorus). Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. Currently in NR 217 Wis. Adm. Code there are three types of limit calculations used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL), a water quality-based effluent limit (WQBEL) determined by stream criteria and a WQBEL based on a Total Daily Maximum Daily Load (TMDL) allocation.

In the case of the Village of Webster:

- A TBEL of 1.0 mg/L is needed if a facility discharges more than the threshold of 150 pounds per month (s. NR 217.04(1)(a)1 Wis. Adm. Code). The limit memo determined that the facility discharges more than the threshold (approximately 175 lbs/month), therefore, a TBEL is applicable this permit term. At this time the permittee is unable to consistently meet the limit, a schedule has been included to provide time to come into compliance.
- Based on the size and classification of the stream, the water quality criteria for the Clam River is 75 ug/L. This criteria and instream background phosphorus data are used to calculate the stream criteria-based WQBEL. The calculated WQBEL is 1.4 mg/L (monthly average). The WQBEL is not applicable this permit term because the TBEL is more restrictive.
- The facility lies within the boundaries of the Lake St Croix total maximum daily load (TMDL) area. The TMDL was developed to address phosphorus water quality impairments. The Lake St Croix TMDL for total phosphorus was approved by the U.S. Environmental Protection Agency on August 8, 2012. More information about the TMDL can be found at <https://dnr.wisconsin.gov/topic/TMDLs/TMDLReports.html>.

The Village of Webster is also included in a group of 12 (in Wisconsin) small permitted point source dischargers facilities subject to an aggregate wasteload allocation (WLA) of 6932 pounds per year (3151 kg/year) under the Lake St. Croix Total Maximum Daily Load (TMDL) report. Compliance with the wasteload allocation is required upon reissuance. The village will be considered in compliance with its Lake St. Croix TMDL allocation if the phosphorus discharged from the facility is less than the permittee's individual allocation (518 pounds per year (235 kg/year)) OR the total annual loading from all permittees in the aggregate category is less than the aggregate allocation.

- Cumulative phosphorus loads from eligible dischargers will be evaluated for compliance with the aggregate loading caps.
- Trends indicating probability of future exceedance of the aggregate loading cap (i.e. aggregate load $\geq$ 85% of the aggregate WLA) will trigger a data evaluation process to identify the cause for the increasing phosphorus loading trend.
- When trends indicate the aggregate loading is approaching the aggregate allocation, permits for the individual discharger (or dischargers) exceeding their individual share of the aggregate loading cap, will be evaluated for development of water quality based effluent limits consistent with the individual wasteload allocations established by the TMDL.

Calculations needed to determine compliance with the wasteload allocation are:

- **Total Monthly Discharge (lbs/month)** = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.
- **Total Annual Discharge** = the sum of the total monthly discharges for the calendar year.

PFOS and PFOA – NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for municipal dischargers with an average flow rate less than 1 MGD, to be evaluated on a case-by-case basis to determine if monitoring is required pursuant to s. NR 106.98(2)(c), Wis. Adm. Code. The department evaluated the need for PFOS and PFOA monitoring taking into consideration the presence of potential PFOS or PFOA industrial wastes, remediation sites and other potential sources of PFOS or PFOA. Based on information available at the time the proposed permit was drafted, it was identified that the POTW has an indirect discharger(s) that may be a potential source of PFOS/PFOA.

*Monitoring is required **monthly** during periods of discharge. Once six samples have been taken, sampling may cease for the remainder of the current calendar year.*

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

Language was added to the permit to ensure that the actions outlined in the approved minimization plan are accomplished over the next several years. The determination to require the implementation of a minimization plan will be reevaluated at the next permit reissuance.

Pursuant to s. NR 106.985(1), Wis. Adm. Code, the department notified the permittee on 03/12/2026 of the requirement to develop a PFOS Minimization Plan that satisfies the requirements in s. NR 106.99, Wis. Adm. Code. The permittee submitted a minimization plan on 03/31/2026; this plan was approved by the department on 05/13/2026.

Nitrogen Series - (nitrate + nitrite, total Kjeldahl nitrogen and total nitrogen) – In 2011, the Upper Mississippi River Basin Association (UMRBA) completed the report “Upper Mississippi River Nutrient Monitoring, Occurrence, and Local Impacts: A Clean Water Act Perspective”. Among the many recommendations of this report was that the states should expand their NPDES discharge monitoring requirements to include both phosphorus and nitrogen as they have important impacts on the mainstem upper Mississippi River as well as in the Gulf of Mexico. Consequently, the department developed the “Guidance for Total Nitrogen Monitoring in WPDES Permits” document dated October 2019, where annual effluent monitoring for total nitrogen (total nitrogen = total Kjeldahl + (nitrite+nitrate)) is required for municipal and industrial facilities discharging to surface waters. Section 283.55(1)(e) Wis. Stats. allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and s. NR 200.065 (1)(h), Wis. Adm. Code, allows for this monitoring to be collected during the permit term. Monitoring during periods of discharge are required in the following quarters:

- **2024:** October – November
- **2025:** April – May
- **2026:** October – November
- **2027:** April – May
- **2028:** October – November

Testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the requirements for 2028. For example, the next test would be required October – November 2029.

WET Testing - Whole effluent toxicity (WET) testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at <http://dnr.wi.gov/topic/wastewater/wet.html>).

Based on historical WET test data and reasonable potential factor (RPF) calculations WET tests are required this permit term, but limits are not needed. A WET Checklist was prepared to determine the number of WET tests that are needed. As toxicity potential increases, more points accumulate, and more monitoring is required to assure toxicity is not occurring over the short (acute) and long (chronic) term. Based on the total points accumulated and Chapter 1.3 of the WET Guidance Document 2 Acute and Chronic WET Tests are required only during periods of discharge during the following quarters:

- **2026:** fourth quarter (October – November)
- **2028:** second quarter (April – May)

Acute and Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required April – May 2029.

Disinfection – If the facility continues to discharge as a fill and draw system, effluent disinfection is not required, because the wastewater detention time is more than 180 days, per NR 210.06(h) Wis. Adm. Code.

Sampling Frequencies - The “[Monitoring Frequencies for Individual Wastewater Permits](#)” guidance document (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect

during this permit term. The department has determined at this time that the facility meets the guidance and no changes in the monitoring frequency is required this permit term.

3 Land Application - Monitoring and Limitations

Municipal Sludge Description						
Sample Point	Sludge Class (A or B)	Sludge Type (Liquid or Cake)	Pathogen Reduction Method	Vector Attraction Method	Reuse Option	Amount Reused/Disposed (Dry Tons/Year)
003	B	Liquid	Sludge is not expected to be removed this permit term.			
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? No						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? No, during the most recent round of sampling (Aug 2023) the result was 0.13 pCi/L. If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in landapplying sludge from this facility						
Is a priority pollutant scan required? No Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.						

Sample Point Number: 003- MUNICIPAL SLUDGE

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

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	
Nitrogen, Total Kjeldahl		Percent	Per Application	Composite	
Nitrogen, Ammonia (NH ₃ -N) Total		Percent	Per Application	Composite	
Phosphorus, Total		Percent	Per Application	Composite	
Phosphorus, Water Extractable		% of Tot P	Per Application	Composite	
Potassium, Total Recoverable		Percent	Per Application	Composite	
PFOA + PFOS		ug/kg	Once	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.

Changes from Previous Permit

Municipal sludge limitations and monitoring requirements were re-evaluated for the permit term and the following changes were made from the previous permit.

- List 1 (Metals) monitoring is required during the second year of the permit term (2025).
- It is recommended that List 2 (Nutrients) monitoring occur with the List 1 monitoring.
- PFAS monitoring is required during the second year of the permit term (2025) pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.
- Due to changes within the land application forms, the 3400-049 (“Characteristics Report”), 3400-052 (“Other Methods of Disposal”) and 3400-055 (Annual Land Application”) will need to be submitted each year.

Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements.

List 2 Nutrient monitoring – Monitoring for list 2 (nutrients) is highly recommended at the same time as the monitoring of List 1 (metals) in year 2 of the permit (2025). Results will assist in the determination of the acres needed for land application of sludge should it be necessary. The number of acres needed is also required for the Sludge Management Schedule (see schedules for more information).

PFAS: The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA is currently developing a risk assessment to determine future land application rates and expects to release this risk assessment by the end of 2024. In the interim, the department has developed the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS” available on the WDNR website.

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department’s implementation of EPA’s recommendations. To quantitate this risk, PFAS sampling has been included in the proposed WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

Change in form submittal – In prior permit reissuances when it has been noted in the application that sludge would not be removed during the permit term, the department required sampling during the second year of the permit term and the sludge characteristic report (3400-049) would be generated only during that year. Due to moving to electronic submittal of forms via Switchboard, forms 3400-049 (“Characteristics Report”), 3400-052 (“Other Methods of Disposal”) and 3400-055 (“Annual Land Application”) will now be generated by the department and the permittee will be required to submit all three reports each year of the permit term. This change was adopted to provide the permittee flexibility because many lagoon desludging projects can be unexpected, are delayed or staggered over multiple years. Additionally, it is used to officially report that no land application of sludge has occurred, and annual submittal of the forms is required per the standard requirements section.

Sludge analysis during the second year of the permit term has been included. There are check boxes available on the electronic forms to identify if desludging didn’t occur.

- Sludge characteristics report (3400-049) – at the top of the form check “yes” or “no” in the box identifying if any land application occurred that year. Complete the form if required or identify the year samples will be or have been taken in the comments section.
- 3400-052 (“Other Methods of Disposal”) and 3400-055 (“Annual Land Application”) - The reports are technically 2 separate forms that are now combined in one location but separated onto two different tabs. If you answer “No” to both listed questions the forms are complete. If you need to answer “Yes” to either question the corresponding form tabs will go from gray to blue indicting information can be entered on the report.

4 Schedules

4.1 Effluent Limits for BOD5

The permittee shall comply with surface water limitations for BOD5 as specified. If a submittal is required, a timely submittal fulfills the notification.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare an operational evaluation study report and submit it for Department approval. The report shall evaluate collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications that would enable compliance with the final BOD5 WQBEL (water quality based effluent limit) or some improved level of effluent quality using the existing treatment system. The report shall state whether the operational improvements are expected to result in compliance with the final BOD5 limitations. If the report concludes that the operational improvements are expected to result in compliance with final BOD5 limitations, the study shall contain a schedule for implementation of any improvements	03/31/2025

or other study recommendations. The implementation schedule shall be based on providing compliance with the final limitations as soon as possible. Once the operational evaluation report is approved by the Department, the permittee shall take the steps called for in the operational evaluation report and optimization plan and follow the implementation schedule as approved. If the Department approved operational evaluation report concludes that the facility cannot achieve the BOD5 limits, the permittee shall initiate facilities planning and implementation of the discharge optimization plan for the current operation.	
Facility Plan: Submit a Facility Plan that evaluates feasible alternatives for meeting the final BOD5 limits. If needed the permittee shall submit a Facility Plan per s. NR 110.09, Wis. Adm. Code. The permittee may submit an abbreviated facility plan if the Department determines that the modifications are minor.	03/31/2026
Financial Assistance Progress Report: Provide an update on the status of financial assistance.	10/01/2026
Construction Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to ch. NR 108, Wis. Adm. Code, specifying treatment plant upgrades that must be constructed to achieve compliance with final BOD5 limitations and a schedule for completing construction of the upgrades by the complete construction date specified below.	09/30/2027
Financial Assistance Application: Provide confirmation that a Financial Assistance Application and Principal Forgiveness (PF) request, as authorized by s. 281.58, Wis. Stats., and ch. NR 162, Wis. Adm. Code, was submitted online to the Department's Clean Water Fund Program by September 30, 2027.	10/01/2027
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	12/31/2028
Complete Actions: Complete actions necessary to comply with the final WQBEL for BOD5.	03/31/2029

4.2 Phosphorus

No later than 30 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance with the required action. If a submittal is part of the required action then a timely submittal fulfills the written notification requirement.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare an operational evaluation study report and submit it for Department approval. The report shall evaluate collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications that would enable compliance with the final phosphorus WQBEL (water quality based effluent limit) or some improved level of effluent quality using the existing treatment system. Also, the operational evaluation report shall include a phosphorus discharge optimization plan for the current operation. If the report concludes that the facility can achieve the final phosphorus WQBEL, the study shall contain a schedule for implementation of any improvements or other study recommendations. The implementation schedule shall be based on providing compliance with the final phosphorus WQBEL as soon as possible. Once the operational evaluation report is approved by the Department, the permittee shall take the steps called for in the operational evaluation report and optimization plan and follow the implementation schedule as approved. If the Department approved operational evaluation report concludes that the facility cannot achieve the phosphorus limit, the permittee shall initiate a Facilities Planning Study and implementation of the phosphorus discharge optimization plan for the current operation.	03/31/2025

Facility Plan: Submit a Facility Plan that evaluates feasible alternatives for meeting the final phosphorus WQBEL (water quality based effluent limit) which may include: facility upgrading, consolidation with other sewerage systems, alternative effluent discharge locations, the Watershed Adaptive Management Option, Water Quality Trading Plan or a water quality standards variance.	03/31/2026
Financial Assistance Progress Report: Provide an update on the status of financial assistance.	10/01/2026
Construction Plans and Specifications: Submit construction plans and specifications for approval if the approved Facility Plan calls for upgrading the treatment facility.	09/30/2027
Financial Assistance Application: Provide confirmation that a Financial Assistance Application and Principal Forgiveness (PF) request, as authorized by s. 281.58, Wis. Stats., and ch. NR 162, Wis. Adm. Code, was submitted online to the Department's Clean Water Fund Program by September 30, 2027.	10/01/2027
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	12/31/2028
Complete Actions: Complete actions necessary to comply with the final WQBEL for phosphorus.	03/31/2029

4.3 PFOS/PFOA Minimization Plan Determination of Need

Required Action	Due Date
Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.	03/31/2025
Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results. The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan. If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued. If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.	03/31/2026

4.4 Sludge Mapping

Required Action	Due Date
Map Sludge Depth: Sludge depth measurements should be taken across the ponds. An evaluation of the sludge depth and a map showing the sludge profile shall be prepared and submitted.	03/31/2026

4.5 Sludge Management Plan

Required Action	Due Date
Submit a Sludge Management Plan: The permittee shall submit a management plan for approval if removal of sludge will occur during this permit term. The plan shall demonstrate compliance with ch. NR 204, Wis. Adm. Code and at minimum address 1) How and where is sludge sampled; 2) Available sludge storage details and location(s); 3) How will the sludge be removed with details on volume, characterization and how will the treatment plant continue to function during the drawdown; 4) Describe the type of transportation and spreading vehicles and loading and unloading practices; 5) Identify approved land application sites, apply for needed sites, site limitations, total acres needed and vegetative cover management; 6) Specify record keeping procedures including site loading; 7) Address contingency plans for adverse weather and odor/nuisance abatement; and 8) Include any other pertinent information such as other disposal options that may be used or specifications of any pretreatment processes Once approved, all sludge management activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes. No desludging may occur unless approval from the Department is obtained. Daily logs shall be kept that record where the sludge has been disposed. The plan is due at least 60 days prior to desludging.	

4.6 PFOS Minimization Plan

This compliance schedule requires the permittee to achieve compliance by the Due Date.

Required Action	Due Date
Submit Progress Report #1: Submit an annual progress report. The annual progress report shall: Indicate which source reduction measures or activities in the approved PFOS minimization plan have been implemented; Identify which suspected sources have been monitored; Include an analysis of trends in weekly, monthly and annual average PFOS concentrations; and Include an analysis of how influent and effluent concentrations vary with time and with significant loadings of PFAS such as loads from industries or other sources into the collection system.	09/30/2027
Submit Progress Report #2 and Re-evaluation: Submit a progress report on the success in the implementation of the PFOS minimization plan. The report shall include a summary of all actions taken and analysis of trends in weekly, monthly, and annual average PFOS effluent concentrations. If initial PMP actions were not successful enough to result in PFOS reductions below the values in s. NR 102.04(8)(d)1., Wis. Adm. Code, the permittee shall submit an updated PMP with the permit application for reissuance. Based on facility and PMP specifics the permittee may be allowed up to 53 additional months after the permit expiration date to implement additional PMP actions before	09/30/2028

being required to install PFAS treatment technologies. This schedule may be modified to adjust compliance schedule dates to incorporate any changes in minimization plan goals and actions or as new information is made available to the department.	
Submit Progress Report #3: Submit the PFOS minimization progress report as defined above.	03/31/2030
Submit Progress Report #4: Submit the PFOS minimization progress report as defined above.	03/31/2031
Submit Progress Report #5: Submit the PFOS minimization progress report as defined above.	03/31/2032
Submit Progress Report #6: Submit the PFOS minimization progress report as defined above.	03/31/2033
Submit Final Progress Report and Re-evaluation: Submit a progress report on the success in the implementation of the PFOS minimization plan. The report shall include a summary of all actions taken and analysis of trends in weekly, monthly, and annual average PFOS effluent concentrations. If initial PMP actions were not successful enough to result in PFOS reductions below the values in s. NR 102.04(8)(d)1., Wis. Adm. Code, the permittee shall be required to install PFAS treatment technologies to meet the calculated WQBELs.	09/30/2033
Submit Facility Plan: The permittee shall submit a facility plan to the Department for approval pursuant to s. NR 110.09, Wis. Adm. Code. The permittee may submit an abbreviated facility plan after discussions with the Department.	09/30/2034
Plan and Specification Submittal: The permittee shall submit final construction plans and specifications to the Department for approval pursuant to ch. NR 108, Wis. Adm. Code, specifying treatment plant upgrades that must be constructed to achieve compliance with the applicable PFOS WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below.	09/30/2035
Treatment Plant Upgrade to Meet Limitations: The permittee shall initiate bidding, procurement, and/or construction of the project. The permittee shall obtain approval of final constructions plans and schedule from the Department pursuant to s. 281.41, Stats., prior to initiating activities defined as construction under ch. NR 108, Wis. Adm. Code. Upon approval of the final construction plans/specifications and schedule by the Department, the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.	09/30/2036
Complete Construction: The permittee shall complete construction of the wastewater treatment plant upgrades.	09/30/2037
Achieve Compliance: The permittee shall achieve compliance with the PFOS water quality-based effluent limit of 8 ng/L as a monthly average.	10/31/2037

Explanation of Schedules

Effluent Limits for BOD5 - A schedule is included in the permit to provide time for the permittee to investigate options for meeting new BOD5 effluent limits while coming into compliance with the limits as soon as reasonably possible.

Compliance schedule due dates have been extended, as requested in writing by the permittee, to better align with funding deadlines and a realistic design and construction schedule. Additional required actions have been included in order to comply with the requirements in s. NR 217.17, Wis. Adm. Code.

Phosphorus - A schedule is included in the permit to provide time for the permittee to investigate options for meeting new Phosphorus effluent limits while coming into compliance with the limits as soon as reasonably possible. Compliance schedule due dates have been extended, as requested in writing by the permittee, to better align with funding deadlines

and a realistic design and construction schedule. Additional required actions have been included in order to comply with the requirements in s. NR 217.17, Wis. Adm. Code.

PFOS/PFOA Minimization Plan Determination of Need - As stated above, NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. S. NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the Department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

Sludge Mapping - The depth and distribution of the sludge in the ponds is not currently known. This information is important to determine the effectiveness of the ponds and estimate when sludge removal is needed.

Sludge Management Plan - If the lagoons are to be de-sludged during this permit term a management plan is needed to show compliance with ch. NR 204, Wis. Adm. Code by clearly explaining how the sludge will be safely removed, what contingencies are in place, the type of equipment that will be used and how the sludge will be land applied to ensure the proper precautions are in place to prevent any negative impacts to surface water or groundwater. There are outlines available to assist in plan development.

PFOS Minimization Plan - The department has made the determination that this facility has reasonable potential to cause or contribute to an exceedance of the PFOS standard in s. NR 102.04(8)(d)1., Wis. Adm. Code, based on the reasonable potential procedures and data collected under s. NR 106.98, Wis. Adm. Code. Pursuant to s. NR 106.985(1), Wis. Adm. Code, the department notified the permittee on 03/12/2026 of the requirement to develop a PFOS Minimization Plan that satisfies the requirements in s. NR 106.99, Wis. Adm. Code. The permittee submitted a minimization plan on 03/31/2026; this plan was approved by the department on 05/13/2026.

The permittee is allowed up to 85 months to implement the minimization plan as outlined above. This schedule may be modified as more data is collected and the success of the proposed minimization plan is further evaluated. The permittee is required to submit annual progress reports every year, with a third progress report required to be submitted with the permit application. If necessary, a final progress report is required at the end of the next permit term.

If the minimization plan actions have not been successful enough to no longer have reasonable potential to cause or contribute to an exceedance of the applicable PFOS standards, then the permittee will be required to install a treatment system or otherwise take steps necessary to come into compliance with the applicable standard(s) by the final Due Date.

Attachments:

PFOS and PFOA Water Quality-Based Effluent Limitations for the Village of Webster Wastewater Treatment Facility - WPDES Permit No. (WI-0028843) in Burnett County, by Amy Garbe, PE, Wastewater Engineer, dated March 12, 2026

Village of Webster, PFOS Minimization Plan, dated 03/31/2026

Approval of PFOS Minimization Plan letter, by Nate Willis, PE, Wastewater Section Manager, dated 05/13/2026

Expiration Date:

March 31, 2029

Justification Of Any Waivers From Permit Application Requirements

N/A



Prepared By: Sheri A. Snowbank **Wastewater Specialist**

Date: December 11, 2023

Date updated based on Factcheck comments: January 22, 2024 (N/A, no changes requested.)

Date updated based on public notice comments: March 1, 2024 (N/A, no comments received)

Notice of reissuance was published in the Burnett County Sentinel, PO Box 397, Grantsburg, WI 54840-0397.

Revised By: Sarah Donoughe, Wastewater Specialist-Adv

Date: June 30, 2026

DATE: March 12, 2026

TO: Sarah Donoughe – NER

FROM: Kari Fleming – WY/3

SUBJECT: PFOS and PFOA Water Quality-Based Effluent Limitations for the Village of Webster Wastewater Treatment Facility - WPDES Permit No. (WI-0028843) in Burnett County

This is in response to your request for an evaluation of the need for PFOS and PFOA limitations for the Webster Wastewater Treatment Facility. This municipal wastewater treatment facility (WWTF) discharges to unnamed tributaries to the Clam River, located in the Clam River Watershed in the St. Croix River Basin.

The current permit, effective since April 2024, has monitoring only for PFOS and PFOA. The following review is based on new regulations which are now in effect throughout the state of Wisconsin and recommendations are made in accordance with chapters NR 102, 104, 105, 106, 207, and 217 of the Wisconsin Administrative Code, where applicable.

Receiving Water Information

- Name: Unnamed tributaries (UT1 & UT2) to the Clam River
- Classification:
 - Limited Aquatic Life (LAL) community, non-public water supply from the discharge to the Clam River.
 - Warm Water Sport Fish (WWSF) community, Exceptional Resource Water (ERW), approx. 1.3 mi downstream of Outfall 002
- Flow:
 - At outfall:
 - 7-Q10 = 0 cfs (cubic feet per second)
 - 7-Q2 = 0 cfs
 - At classification change, approximately 1.3 miles downstream of the outfall:
 - 7-Q10 = 79 cfs
 - 7-Q2 = 110 cfs
- % of Flow used to calculate limits: Not applicable where the receiving water low flows are zero

Effluent Information

- Flow:
 - Flow rate limit = 0.51 million gallons per day (MGD)
 - Average Design Flow = 0.085 MGD (million gallons per day)

The flowrate limit of 0.51 MGD is used in place of the annual average design flow of 0.085 MGD to account for the seasonal nature of the discharge. For reference, the actual average flow from April 2024 – October 2025 was 0.415 MGD excluding days discharge did not occur.

- Effluent characterization: This facility is categorized as a minor municipality.

The following table lists the statistics for effluent PFOS and PFOA levels from the discharges in April 2024, October 2024, May 2025, and October 2025.

	PFOS ng/L	PFOA ng/L
1-day P ₉₉	28.20	11.16
4-day P ₉₉	20.53	11.96
30-day P ₉₉	16.46	9.60
Mean*	14.4	8.42
Std	4.56	0.80
Sample Size	12	12
Range	11-28	<6.5-10

*Results below the level of detection (LOD) were included as zeroes in calculation of average.

Water Quality Based Limit – PFOS and PFOA

Administrative rules for PFOS and PFOA took effect on August 1, 2022. These rule revisions include additions to ch. NR 102 (s. NR 102.05), Wis. Adm. Code, which establish PFOS and PFOA standards for surface waters. Revisions to ch. NR 106 (s. NR 106, Subchapter VIII), Wis. Adm. Code establish procedures for determining water quality based effluent limits for PFOS and PFOA, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

PFOS

Due to PFOS being a bioaccumulating compound of concern (BCC), no mixing zone is allowed pursuant to s. NR 106.98(4), Wis. Adm. Code. Therefore, the effluent limit for PFOS is set equal to criterion (8 ng/L).

PFOA

The conservation of mass equation is described in s. NR 106.06(4)(b)1. Wis. Adm. Code, and includes variables of water quality criterion (WQC), receiving water flow rate (Q_s), effluent flow rate (Q_e), and upstream PFOA concentrations (C_s) provided below.

$$\text{Limitation} = [(WQC)(Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)] / Q_e$$

Where:

WQC = 95 ng/L for the Unnamed Tributaries

Q_s = 25% of the harmonic mean pursuant s. NR 106.06(4)(c)10., Wis. Adm. Code = 0 cfs

C_s = background concentration of PFOA in the receiving water pursuant to s. NR 106.06(4)(e), Wis. Adm. Code

Q_e = effluent flow rate = 0.51 MGD = 0.79 cfs

f = the fraction of effluent withdrawn from the receiving water = 0

After substituting the appropriate variables, the calculated PFOA limit is 95 ng/L.

Reasonable Potential Determination

In accordance with s. NR 106.98(4)(a), Wis. Adm. Code, **the discharge has reasonable potential to cause or contribute to an exceedance of the water quality criterion for PFOS** because the 30-day P₉₉ of reported effluent PFOS data is greater than the calculated WQBEL (8 ng/L). Therefore, **a WQBEL is required for Outfall 002.**

The discharge does not have reasonable potential to cause or contribute to an exceedance of the water quality criterion for PFOA because the 30-day P₉₉ of reported effluent PFOA data is less than the calculated WQBEL (159 ng/L). Therefore, a WQBEL is not required.

Conclusions

The following is a summary of limits recommended by this evaluation:

- Monthly average PFOS limit of 8 ng/L

If there are any questions or comments on these recommendations, please contact Amy Garbe by telephone at (608) 716-9968 or by email at Amy.Garbe@wisconsin.gov.

Attachments (2) – P99 Calculations

PREPARED BY:


Amy Garbe, P.E., Wastewater Engineer

date: 3/12/26

cc: Eric DeVenecia, Basin Engineer – NOR/Superior
Nate Willis, P.E., PFAS Implementation Coordinator – CO

Attachment 1 – PFOS P99 Calculation

EFFLUENT VARIABILITY ANALYSIS -				
= = = =				
SUBSTANCE:			Data Summary	
NUMBER OF				
VALUES:				
TOTAL	12		Apr-24	11
DETECTED	12		Apr-24	14
NON-DETECTED	0		Apr-24	28
			Apr-24	11
d	0		Oct-24	14
			Oct-24	12
m	14.41667		May-25	12
			May-25	12
mean of all data	14.41667		May-25	15
			Oct-25	14
s	4.561864		Oct-25	14
			Oct-25	16
n	1	4	30	
d^n	0	0	0	
p	0.99	0.99	0.99	
Z_p	2.326785	2.326785	2.326785	
1+(s/m)^2	1.100128	1.100128	1.100128	
(sigma_d)^2	0.095426	0.095426	0.095426	
mu_d	2.620672	2.620672	2.620672	
(sigma_dn)^2	0.095426	0.024724	0.003332	
mu_dn	2.620672	2.656023	2.666719	
P_99 exponent	3.339443	3.021882	2.80103	
P_99	28.20	20.53	16.46	

Attachment 2 – PFOA P99 Calculation

EFFLUENT VARIABILITY ANALYSIS -				
=	=	=	=	=
SUBSTANCE:				
NUMBER OF				
VALUES:	-----			
TOTAL	12			
DETECTED	11			
NON-DETECTED	1			
d	0.083333			
m	9.181818			
mean of all data	8.416667			
s	0.798521			
n	1	4	30	
d^n	0.083333	4.82E-05	4.21E-33	
p	0.989091	0.99	0.99	
Z_p	2.293958	2.326767	2.326785	
1+(s/m)^2	1.007563	1.007563	1.007563	
(sigma_d)^2	0.007535	0.007535	0.007535	
mu_d	2.213458	2.213458	2.213458	
(sigma_dn)^2	0.007535	0.024439	0.0033	
mu_dn	2.213458	2.118042	2.128564	
P_99 exponent	2.412582	2.481789	2.262225	
P_99	11.16	11.96	9.60	

Data Summary

Apr-24	9.4
Apr-24	10
Apr-24	9.2
Apr-24	7.5
Oct-24	9.9
Oct-24	8.7
May-25	<6.5
May-25	8.2
May-25	8.9
Oct-25	10
Oct-25	9.5
Oct-25	9.7

Village of Webster
PFOS Minimization Plan
WPDES Permit No. WI-0028843-11-0

Background

The Village of Webster owns and operates a wastewater treatment facility (WWTF) that treats wastewater from the Village's collection system. The Village treats wastewater with a stabilization pond WWTF, with seasonal discharge in spring and fall. A sewage grinder is located upstream of the main lift station for preliminary treatment. Effluent is discharged to a drainage ditch tributary of the Clam River, located in the Clam River Watershed of the St. Croix River Drainage Basin in Burnett County, WI. The WWTF's rated average daily flow is 0.085 MGD. The historical average daily flow (based on 2019-2025 data) is 0.052 MGD. Historical peak month, week, and day flows are 0.096 MGD, 0.140 MGD, and 0.170 MGD, respectively. This document is intended to fulfill the requirements of a Perfluorooctanesulfonic Acid (PFOS) minimization plan.

Source Identification

There are no known sources of PFOS in the Village's collection system. The Village's main industry (a metal finishing/machining company that manufactures high performance motion control parts) is the only industry in the Village and could be a source of PFOS or Perfluorooctanoic Acid (PFOA), which are the two Per- and Poly- Fluoroalkyl Substances (PFAS) currently regulated in Wisconsin's wastewater discharges. Preliminary correspondence with the industry has indicated that no chemicals containing PFOS or PFOA are currently in use. The industry has agreed to sample its discharge for PFAS to further evaluate potential industrial impacts. Additionally, the Village has sampled its wells for PFAS compounds. PFOA and PFOS at the wells were both below detection limits, indicating that any PFOS or PFOA observed in WWTF effluent does not originate from the Village's source water for drinking water.

Effluent PFOA and PFOS sampling was conducted in 2024 and 2025 during seasonal discharge. The 99th percentile PFOA sampling results indicated there is no reasonable potential for PFOA to exceed the narrative limit. The PFOS 99th percentile exceeded the 8 ng/L limit for the 1-day P99, 4-day P99, and 30-day P99. Therefore, the focus of this minimization plan is on PFOS rather than PFOA.

PFOS in the raw groundwater in the Village of Webster is below detection limits, indicating that the PFOS measured in the WWTF effluent originates from dischargers to the collection system. Additionally, since the groundwater does not contain significant levels of PFOS, infiltration into the collection system is not considered a potential source. According to the Wisconsin DNR RR Sites Map, there are no sites in the Village requiring PFAS sampling. At the time of this report, the Village has not identified any specific users discharging PFOS. However, desktop research indicates the Village's main industry will be further investigated as a potential source of contamination. This investigation has already commenced at the time of this report.

Table 1: Potential PFOS Sources

Source	Type of Process	Contacted?	Possible source?
Motion Control Products Manufacturer	Metal finishing, machining	Yes	TBD

The dischargers identified in **Table 1** will be contacted again to determine if there is any possibility they could be discharging some level of PFOS, and to discuss potential testing. This contact is identified in **Table 4** as a planned action.

Data Analysis

The Village of Webster's average PFOS concentration for the past two years was 14.3 ng/L, which is above the 8 ng/L narrative standard in NR 102. The average PFOA concentration for the past year was 8.9 ng/L, which is below both the 20 ng/L and 95 ng/L narrative standards. All PFOS results collected exceeded the narrative standard. There is no general trend from the PFOS data, as the exceedances occur during different times of the year, and at different concentrations. The data ranges from 11 to 28 ng/L. There was one sample at 28 ng/L, and the next highest result was 16 ng/L, indicating that the 28 ng/L result is likely an outlier in this data set potentially caused by sample contamination. The data is comprised of grab samples collected weekly in spring and fall during discharge, so it is challenging to identify a clear trend in data from sporadic sampling. Daily sample results are tabulated below.

Table 2: Daily PFOS/PFOA Results

Date	PFOS (ng/L)	PFOA (ng/L)
4/8/2024	11	9.4
4/15/2024	14	10
4/22/2024	28	9.2
4/29/2024	11	7.5
10/7/2024	14	9.9
10/14/2024	12	8.7
5/5/2025	12	6.5
5/12/2025	12	8.2
5/19/2025	15	8.9
10/7/2025	14	10
10/14/2025	14	9.5
10/21/2025	16	9.7
Average	14.3	8.9
1-Day P99	28.2	11.8
4-Day P99	20.5	10.3
30-Day P99	16.5	9.4

The Village also sampled sludge in each stabilization pond for PFAS in February of 2025. PFOS and PFOA sludge results are tabulated below. Combined PFOA/PFOS levels in the sludge from all three ponds are below the 20 µg/kg threshold for special land application requirements, indicating that PFOA and PFOS levels in sludge are low. Note that ng/g and µg/kg are equivalent units.

Table 3: Stabilization Pond Sludge PFOA and PFOS Concentrations

Location	PFOA Sludge Concentration (ng/g)	PFOS Sludge Concentration (ng/g)
Pond 1	0.535	5.34
Pond 2	0.623	9.75
Pond 3	0.564	2.17

Planned Actions

The table below outlines the activities the Village will conduct to further investigate the levels of PFOS in the wastewater effluent. Since there is minimal concentration of PFOS in the raw water, the Village will investigate the sampling protocol, and the inputs to the sewer system. Sampling for as many PFAS compounds as possible is recommended for future sampling to evaluate both PFOS and its precursors as long as sampling costs remain affordable for the Village.

Table 4: Minimization Plan

Minimization Plan Activities	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year	6 th Year	7 th Year
Sampling Protocol:							
Continue Effluent Sampling	X	X	X	X	X	X	X
Influent Sampling at Main Lift Station	X	X	X				
Submit Split Samples to Different Labs	X	X	X				
Test different sampling methods/equipment blanks	X	X	X				
Source Reduction:							
Identify potential sources	X	X	X				
Research on users	X						
Correspondence with users to sample their wastewater discharge	X	X	X				
Verified PFOS contributors will be required to submit a plan to the Village detailing the steps they will take to minimize PFOS and their sampling protocol.				X	X	X	X
Sample potential sources – strategic collection system sampling	X	X	X				
Sample via manholes or lift stations	X	X	X				
Public Education and Outreach	X	X	X	X	X	X	X

After the research on potential sources and sampling is conducted, the Village will determine the plausible sources of PFOS in the collection system. Fingerprinting of the influent PFAS results based on available data from DNR may be implemented at this point. In addition, evaluation of PFOS precursors and formation at the WWTF may also be evaluated. Next, the Village will work with identified users who contribute PFOS (or its precursors) to the wastewater collection system to reduce the amount of PFOS discharged. To decrease the influent PFOS concentrations to the WWTF, the users can identify alternative chemicals for their manufacturing process that do not contain PFOS, find an alternative disposal method instead of discharging to the sewer collection system, or potentially use wastewater pretreatment to remove PFOS prior to discharging to the collection system. The plan the user must submit to the Village should provide details of the alternative they will use to minimize the amount of PFOS discharged to the collection system.

The anticipated results and monetary impact of these optimization efforts are highly uncertain. If the Village's industry is not the source of PFOS or its precursors, normal commercial and residential use may be the primary source. In this case, pretreatment would be economically infeasible, since the Village's MHI is 49% of the statewide average and many of its users are classified as low-to-moderate income households. Public education and product substitution would be the most feasible approach for minimization if no non-residential source of PFAS is identified.



05/13/2026

Ed Dedman, Village President
Village of Webster
PO Box 25
Webster, WI 54893

Subject: Approval of PFOS Minimization Plan

Dear Ed Dedman:

The Wisconsin Department of Natural Resources (hereafter department) is conditionally approving the PFOS minimization plan (PMP) for the Webster Wastewater Treatment Facility located in Webster, Wisconsin, and received for approval on 03/31/2026.

Webster does not intentionally add or use PFOS or other PFAS compounds in the treatment processes at the facility, but two years of effluent sampling data shows reasonable potential to exceed the calculated water quality-based effluent limit for PFOS (8 ng/L).

In addition to the ongoing effluent PFOS monitoring, Webster is proposing to take intake samples and have a local industry sampled. This data will provide a baseline for determining and/or confirming additional possible PFOS inputs.

The PMP is hereby approved in accordance with s. 283.31, Wis. Stats., and s. NR 106.985(2)(a), Wis. Adm. Code, subject to the following conditions:

1. That if modifications to the approved PMP are necessary, a revised PMP shall be submitted to the department for its approval prior to commencement of the modifications.
2. That the PMP be followed in accordance with the requirements of WPDES Permit No. WI-0028843-11-0 and subsequent approved modifications to the PMP and the permit.

Per s. NR 106.985(2)(b), Wis. Adm. Code, the department will modify Webster's WPDES permit to include the PFOS minimization plan, and other related terms and conditions, including annual progress reporting requirements and a schedule of compliance to meet applicable water quality based effluent limitations. As part of the modification, the approved PMP will be available for public comment as part of the public noticed package.

This conditional approval is not to be construed as a department determination on the issuance of a WPDES permit or an opinion as to the ability of the proposed PMP to comply with effluent limitations in such a permit. Also, this letter is not to be construed as an approval for activities requiring approval under other Wisconsin administrative codes or statutes or by other federal, state or local agencies.

If you believe you have a right to challenge this decision, the Wisconsin statutes and administrative codes establish time periods which requests to review department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the department, to file your petition with the appropriate circuit court and serve the petition on the department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review. The filing of a request for a contested case hearing is not prerequisite for judicial review.

Please contact Nate Willis by phone (608) 535-2369 or email: nathaniel.willis@wisconsin.gov if you have any questions regarding this letter.



Nate Willis, P.E.
Wastewater Section Manager
Bureau of Water Quality

e-cc: Pete Denn – Webster
Debra Kuhnly – Webster
Pat Morrow – MSA
Jacob Novitch – MSA
Eric DeVenecia – DNR
Sarah Donoughe – DNR
Amy Garbe – DNR
Christopher Holland – DNR