

Permit Fact Sheet

General Information

Permit Number	WI-0029467-11-0
Permittee Name and Address	City of Niagara 1029 Roosevelt Rd. P.O. Box 24, Niagara, WI 54151
Permitted Facility Name and Address	Niagara Wastewater Treatment Facility 2309 Sherman Street, Niagara, Wisconsin
Permit Term	October 01, 2026 to September 30, 2031
Discharge Location	45°45'57"N, 87°58'27"W, Southeast bank of the Menominee River, approx.. 5,600 ft downstream of the Little Quinnesec Dam
Receiving Water	Menominee River in Pemebonwon and Middle Menominee Rivers Watershed of Green Bay River Basin in Marinette County
Stream Flow (Q _{7,10})	790 cfs
Stream Classification	Warm Water Sport Fish (WWSF), non-public water supply, recreational use
Discharge Type	Existing, Continuous
Annual Average Design Flow (MGD)	0.39 MGD
Industrial or Commercial Contributors	N/A
Plant Classification	A2 - Attached Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; P - Total Phosphorus; D - Disinfection; L - Laboratory; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

Treatment facilities include a rotary self-cleaning mechanical screen, grit removal, a single primary clarifier, a pair of rotating biological contactors (RBC's), a single final clarifier, disinfection using chlorine and dechlorination using sulfur dioxide gas prior to discharge. Phosphorus removal is accomplished by precipitation with ferric chloride and a polymer is added as needed to aid settling. Effluent is discharged on a continuous basis via Outfall 001 to the southeast bank of the Menominee River, approx. 5,600 ft downstream of the Little Quinnesec Dam. Sludge is stabilized by anaerobic digestion prior to land application to approved agricultural fields. The system was constructed in 1974 with dechlorination added in 1990.

Substantial Compliance Determination

After a desktop review of all discharge monitoring reports, CMARs, land application reports, compliance schedule items, and a site visit on March 26, 2025, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by Laura Gerold, Wastewater Engineer, on May 15, 2025.

Sample Point Descriptions

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	N/A – no flow monitoring in previous permit term	INFLUENT: Representative 24-hour flow proportional samples shall be collected after the rotary screening process and before grit removal. Flow is measured with a digital doppler at the discharge piping of the wetwell.
001	0.21 MGD (2025)	EFFLUENT: Representative 24-hour flow proportional samples shall be collected just prior to the chlorine contact tank. Grab samples shall be collected following the dechlorination process from the trough of the Parshall flume. Flow is monitored with an ultrasonic flow monitor and Parshall flume after the chlorine contact chamber.
003	14 metric tons (average, 2021-2025)	LAND APPLICATION: (Liquid Sludge) Anaerobically digested liquid sludge samples shall be collected from digester #2 and the sludge storage tank.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- INFLUENT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	

1.1.1 Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit term:

- Influent flow was added to meet the requirements under s. NR 210.04(2), Wis. Adm. Code.

1.1.2 Explanation of Limits and Monitoring Requirements

Monitoring of influent flow, BOD5 and total suspended solids is required by s. NR 210.04(2), Wis. Adm. Code, to assess wastewater strengths and volumes and to demonstrate the percent removal requirements in s. NR 210.05, Wis. Adm. Code, and in the Standard Requirements section of the permit.

2 Surface Water - Monitoring and Limitations

2.1 Sample Point Number: 001- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	45 mg/L	3/Week	24-Hr Flow Prop Comp	
BOD5, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	5/Week	Grab	
pH Field	Daily Min	6.0 su	5/Week	Grab	
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	May - September, each year.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	May - September, each year. See the E.coli Percent Limit section. Enter the result in the DMR on the last day of the month.
Chlorine, Total Residual	Daily Max	38 ug/L	5/Week	Grab	May - September, each year.
Chlorine, Total Residual	Weekly Avg	38 ug/L	5/Week	Grab	May - September, each year.
Chlorine, Total Residual	Monthly Avg	38 ug/L	5/Week	Grab	May - September, each year.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	24-Hr Flow Prop Comp	Monthly monitoring in 2028.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monthly monitoring in 2028.
Copper, Total Recoverable		ug/L	2/Month	24-Hr Flow Prop Comp	Monitoring twice per month in 2028.
PFOS		ng/L	1/ 2 Months	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
PFOA		ng/L	1/ 2 Months	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in rotating quarters. See Nitrogen Series Monitoring section. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Total Nitrate.

2.1.1 Changes from Previous Permit

Effluent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- **BOD5, Total-** The sample frequency has been changed from “2/week” to “3/week”.
- **Suspended Solids, Total-** The sample frequency has been changed from “2/week” to “3/week”.
- **E. coli-** Fecal coliform monitoring and limits have been replaced with Escherichia coli (E. coli) monitoring and limits.
- **Nitrogen, Ammonia Total-** Monthly monitoring in 2028 has been added to the permit.
- **Chloride-** Monthly monitoring in 2028 has been added to the permit.
- **Copper-** Monitoring twice per month in 2028 has been added to the permit.
- **PFOS and PFOA** – Monitoring once every two months is included in the permit in accordance with s. NR 106.98(2)(b), Wis. Adm. Code.

- **Total Nitrogen Monitoring (TKN, NO₂+NO₃ and Total N)**- Annual monitoring is required in specific quarters as outlined in the permit.

2.1.2 Explanation of Limits and Monitoring Requirements

Detailed discussions of limits and monitoring requirements can be found in the attached water quality-based effluent limits (WQBEL) memo dated September 24, 2025.

Monitoring Frequencies- The Monitoring Frequencies for Individual Wastewater Permits guidance (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 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. Both sample frequencies for BOD and Suspended Solids have been updated from “2/week” to “3/week” to meet standard monitoring frequency guidance.

Expression of Limits- In accordance with the federal regulation 40 CFR 122.45(d) and s. NR 205.065, Wis. Adm. Code, limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable.

Nitrogen, Ammonia- Monthly monitoring for one year has been added to the permit to determine the need for limits at the next permit reissuance.

Chloride- Monthly monitoring for one year has been added to the permit to ensure that sufficient sample results are available at the next permit reissuance to meet the data requirements of s. NR 106.85, Wis. Adm. Code.

Copper- Due to the concern of potential effluent copper variability based off past copper data, 2/month sampling for 1 year has been added to the permit to better determine the need for copper limits at the next permit reissuance.

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 major municipal dischargers with an average flow rate greater than 1 MGD but less than 5 MGD, at a minimum sample effluent once every two-months for PFOS and PFOA pursuant s. NR 106.98(2)(b), Wis. Adm. Code.

A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

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.

Total Nitrogen Monitoring (NO₂+NO₃, TKN and Total N)- The Department has included effluent monitoring for Total Nitrogen in the permit through the authority under §§ 283.55(1)(e), Wis. Stats., which 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 through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. Annual effluent monitoring for Total Nitrogen is included in the permit because of the potential for higher nitrogen loading resulting from higher flows (major facilities), higher concentrations, or both. More information on the justification to include total nitrogen monitoring in wastewater permits can be found in the “Guidance for Total Nitrogen Monitoring in Wastewater Permits” dated October 1, 2019.

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	Anaerobic Digestion	Volatile Solids Reduction	Land Application	14
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.						
Is a priority pollutant scan required? No.						

3.1 Sample Point Number: 003- LIQUID SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH ₄ -N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

3.1.1 Changes from Previous Permit:

Sludge limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

PFAS –Monitoring is required annually pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

PCB- PCB testing is not included in the reissued permit.

3.1.2 Explanation of Limits and Monitoring Requirements

Requirements for disposal, including 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.

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA has developed a draft risk assessment to determine future land application rates and released this risk assessment in January of 2025. The department is evaluating this new information. Until a decision is made, the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS” should be followed

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 this WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

PCB- PCB testing was removed from the reissued permit but will be included in the next permit term.

4 Schedules

4.1 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.	10/01/2027
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.	10/01/2028

4.1.1 Explanation of Schedule

As stated above, ch. NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Section 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.

4.2 Sludge Management Plan

An updated sludge management plan is required.

Required Action	Due Date
Sludge Management Plan Submittal: Sludge Management Plan Submittal: Submit a sludge management plan (SMP) to optimize the sludge management performance and demonstrate compliance with Ch. NR 204, Wis. Adm. Code, by the Due Date. This management plan shall include sufficient detail of the sludge management program for the facility. The plan shall include separate sections for each type of sewage sludge included in this permit. The SMP shall provide standardized information for communication to operators and the department including but not limited to the following: 1) Specify information on the sludge treatment processes for each sampling point and outfall; 2) Show and describe sample point and outfall monitoring locations on a schematic and provide photos of the specific sampling points; 3) Show, describe and tabulate the monitoring requirements at each sampling point and outfall locations; 4) Show, describe and explain sampling protocols for each location listing parameters to be monitored including: a) Pollutants, b) Nutrients, c) Pathogen treatment process requirements including treatment temperature, moisture content (total solids) and pathogen densities (fecal concentrations), d) Vector Reduction appropriate for the pathogen treatment process such as but not limited to temperatures, volatile solids reduction, moisture content, etc. as required by the WPDES permit and Ch. NR 204, Wis. Adm. Code; 5) Monitoring frequencies at each sample point and outfall; 6) Analytical methods with appropriate hold times and chain of custody procedures; 7) Documentation relating to temperature monitoring data recording, retrieval and printing out the data when requested; 8) Storage, verification monitoring, loading, transportation and discharge details associated with all outfalls; 9) Collection, storage, disposal information for sludge detailing pickups including loading and similar details; 10) Collection, storage and disposal processes of sludge when the sludge does not meet minimum requires to meet Class A and EQ requirements. [Note: EQ and Class A are similar, but are different. Explain.] 11) Identify land application sites; 12) Describe site limitations; 13) Address vegetative cover management and removal including loading to crop needs, crop	10/01/2027

harvesting; 14) Specific the availability of storage for sludge; 15) Describe the type of transportation and spreading vehicles; 16) Track site loadings to facility's land application sites; 17) Address contingency plans for adverse weather and odor/nuisance abatement; 18) Address construction contingencies when treatment equipment is out of service; and 19) Include any other pertinent information. 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. Note: The SMP is a living document and should be designed and constructed to allow for future updates. Consider providing an overview to explain the facilities solids flow processes, then using sections and appendices to provide more details. The use of appendices to explain start up, operation and shutdown of the sludge treatment units is encouraged to show that all sludge particles meet applicable requirements.	
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4.2.1 Explanation of Schedule

An up-to-date Sludge Management Plan is required that documents how the permittee will manage the land application of biosolids consistent with ch. NR 204, Wis. Adm. Code.

Attachments

Water Quality Based Effluent Limitations for the Niagara Wastewater Treatment Facility WPDES Permit No. WI-0029467-11-0, Michael Polkinghorn, dated September 24, 2025

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

Prepared By: Ashley Clark, Wastewater Specialist

Date: July 24, 2026