Permit Fact Sheet

General Information

Permit Number	WI-0061140-09-0
Permittee Name and Address	Northland Mission, Inc. W10085 Pike Plains Rd, DUNBAR, WI 54119-9285
Permitted Facility Name and Address	Northland Mission Inc WWTF W10085 Pike Plains Road, Dunbar, Wisconsin
Permit Term	January 01, 2027 to December 31, 2031
Discharge Location	SW ¼ of NW ¼, Sec. 23, T36N-R19E Town of Dunbar, Marinette Co. N 45° 34.847' W 88° 6.273'
Receiving Water	Groundwater of the Pike River Watershed (GB14) via Seepage Cells in the SW ¼ of the NE ¼ of Section 22, T36N, R19E in Marinette County
Discharge Type	Existing, Intermittent
Annual Average Design Flow (MGD)	0.062 MGD
Industrial or Commercial Contributors	N/A
Plant Classification	A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; N - Total Nitrogen; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

The Northland Missions Inc. wastewater treatment plant is located in northwestern Marinette County. The facility provides treatment for a year-round camp and conference center providing weekly camps during the summer and retreats and rentals during the spring, fall, and winter. Northland Mission's population varies throughout the year based on attendance. The facility does have a constant population of staff and families year-round (45 people). Rental weeks can range from 50- 600 guests, camp weeks can range from 80-200 campers, and retreats range from 50 -100. The annual average design flow is 0.062 million gallons per day (MGD). Sludge volume is approximately 11 dry tons per year and is land applied.

Treatment consists of a three-ring orbal oxidation ditch, final clarification, and three seepage cells. A groundwater monitoring system consists of three monitoring wells; one background well and two downgradient wells. The system was constructed in 1993.

Substantial Compliance Determination

Enforcement During Last Permit:

- The facility had been operating without a licensed Operator-In-Charge for much of the permit term. There is now a licensed Operator-in-Charge for the facility.

- The facility received several Notices of Noncompliance for failure to perform required sampling, failure to submit required reports, improper operation and maintenance of the facility, and for effluent violations.
- A Notice of Violation and two Enforcement Conferences were held during the current permit term in response to repeated violations. To bring the facility back into compliance, several schedules are included for submitting required reports and SOP's.

After a desk top review of all discharge monitoring reports, CMARs, land application reports and compliance schedule items on October 5th, 2026 as well as a site visit on October 11th, 2024, this facility has been found to not be in substantial compliance with their current permit due to operating without a licensed operator-in-charge, excessive exceedances of effluent Total Nitrogen, and missing data. Compliance schedules have been added to the permit to bring the facility back into compliance.

Compliance determination made by Laura Gerold, Wastewater Engineer on October 5, 2026.

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	0.01 MGD (2025)	INFLUENT: Representative samples shall be collected prior to the influent channel of the oxidation ditch. Flow is monitored at the main and final lift stations.
001	0.04 (2025)	EFFLUENT: Representative samples shall be collected from the effluent trough of the final clarifier prior to discharge via seepage cells. Flow is measured with a Grayline Open Channel Flow Meter at the point of discharge to the seepage cells.
002	N/A – no land application in previous permit term	LAND APPLICATION: Representative samples of the liquid sludge shall be collected from the sludge storage tank.

Sample Point Designation For Groundwater Monitoring Systems			
System	**Sample Pt Number**	**Well Name**	**Comments**
Seepage Cells	801	801 (MW-1) - Background	Up-gradient, Background. Located at 10213.3 ft N 3529.8 ft E
	802	802 (MW-2)	Down-gradient, Non-Point of Standard. Located at 9696.1 ft N 3857.6 ft E.
	803	803 (MW-3)	Down-gradient, Non-Point of Standard. Located at 9531 ft N 3641.9 ft E.

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	Estimated	
BOD5, Total		mg/L	2/Month	3-Hr Comp	
Suspended Solids, Total		mg/L	2/Month	3-Hr Comp	
Nitrogen, Total Kjeldahl		mg/L	Monthly	3-Hr Comp	

1.1.1 Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

1.1.2 Explanation of Limits and Monitoring Requirements

Influent monitoring is needed to assess loading to the facility and treatment performance. The required parameters and sampling frequency are appropriate for a land treatment system as outlined in ch NR 206, Wis. Adm. Code.

2 Land Treatment – 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	Monthly Avg	50 mg/L	2/Month	3-Hr Comp	
Suspended Solids, Total		mg/L	2/Month	3-Hr Comp	
Nitrogen, Total Kjeldahl		mg/L	Weekly	3-Hr Comp	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Weekly	3-Hr Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Weekly	3-Hr Comp	
Nitrogen, Organic Total		mg/L	Weekly	Calculated	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total	Monthly Avg	10 mg/L	Weekly	Calculated	
Solids, Total Dissolved		mg/L	Monthly	3-Hr Comp	
Chloride	Daily Max	250 mg/L	Monthly	3-Hr Comp	
pH Field		su	Weekly	Grab	

2.1.1 Changes from Previous Permit:

Effluent limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

2.1.2 Explanation of Limits and Monitoring Requirements

All requirements for land treatment of municipal wastewater are determined in accordance with ch. NR 206, Wis. Adm. Code. All categorical limits are based on s. NR 206.08(1), Wis. Adm. Code. More information on the limitations can be found in the Groundwater Evaluation for Northland Mission Inc. Wastewater Treatment Facility WI-0061140 by Woody Myers, Hydrogeologist, dated September 21, 2026.

3 Groundwater – Monitoring and Limitations

3.1 Groundwater Monitoring System for Seepage Cells

Location of Monitoring system: NE 1/4 Section 22, T36N, R19E

Groundwater Monitoring Well(s) to be Sampled: 801 (MW-1) - Background, 802 (MW-2), 803 (MW-3)

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality: 801 (MW-1) - Background

Groundwater Monitoring Well(s) Used for Point of Standards Application: N/A; all wells are within property boundaries and within 250 feet of seepage cells

Parameter	**Units**	**Preventative Action Limit**	**Enforcement Standard**	**Frequency**
Depth To Groundwater	feet	N/A	N/A	Quarterly
Groundwater Elevation	feet MSL	N/A	N/A	Quarterly
Nitrogen, Total Kjeldahl Dissolved	mg/L	N/A	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.0	10	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.1	N/A	Quarterly

Chloride Dissolved	mg/L	125	250	Quarterly
Solids, Total Dissolved	mg/L	380	N/A	Quarterly
pH Field	su	8.3	N/A	Quarterly
Manganese Dissolved	mg/L	0.06	0.3	Quarterly

3.1.1 Changes from Previous Permit:

Groundwater limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

3.1.2 Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch. NR 140, Wis. Adm. Code. Indicator parameter Preventive Action Limit (PAL) values are established per s. NR 140.20, Wis. Adm. Code. Alternative Concentration Limits as allowed under s. NR 140.28, Wis. Adm. Code, are established on a case-by-case basis.

For more information, please refer to the Groundwater Evaluation for Northland Mission Inc. Wastewater Treatment Facility WI-0061140 by Woody Myers, Hydrogeologist, dated September 21, 2026.

4 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)**
002	B	Liquid	Fecal Coliform	Incorporation when land applied	Land Application	N/A – last disposed of sludge in 2014
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.** 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.**						

4.1 Sample Point Number: 002- LAND APPLICATION

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH4-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. Monitoring is required any time sludge is hauled off site. Monitoring is also required prior to July 1, 2027 to meet the PFAS Sludge General Permit WI-

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					0012345-0.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

4.1.1 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 once pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

4.1.2 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. Limitations for PCBs are addressed in s. NR 204.07(3)(k). Radium requirements are addressed in s. NR 204.07(3)(n).

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.

5 Schedules

5.1 Total Nitrogen Progress Report

This compliance schedule requires the permittee to analyze and report on Total Nitrogen in the effluent and, if necessary, summarize action plan items to reduce Total Nitrogen.

Required Action	Due Date
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	06/30/2027
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total	12/31/2027

Nitrogen in the wastewater effluent.	
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	06/30/2028
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	12/31/2028
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	06/30/2029
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	12/31/2029
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	06/30/2030
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	12/31/2030
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	06/30/2031
Semi-Annual Total Nitrogen Report: The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	12/31/2031
Semi-Annual Total Nitrogen Report: In the event that the permit is not re-issued on time, the permittee shall continue to submit Semi-Annual Total Nitrogen Reports to the Department. The permittee shall submit to the Department a report to summarize the Total Nitrogen measured in the wastewater effluent. If Total Nitrogen effluent limits were exceeded, the permittee must include in the report what actions were taken to reduce Total Nitrogen in the wastewater effluent.	

5.1.1 Explanation of Schedule

The facility has not met Total Nitrogen limits consistently. A schedule to required semi-annual reporting of Total Nitrogen results and a description of actions taken to reduce Total Nitrogen in the effluent is being included in the permit due to frequent Total Nitrogen violations and to help bring the facility back into compliance with effluent limitations.

5.2 Sludge Management Plan

A sludge management plan is required.

Required Action	Due Date
Sludge Management Plan Submittal: The permittee shall submit an update to the 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.	10/01/2031

5.2.1 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.

5.3 Land Treatment Management Plan

A management plan is required for the land treatment system.

Required Action	Due Date
Land Treatment Management Plan: Submit an update to the management plan to optimize the land treatment system performance and demonstrate compliance with Wisconsin Administrative Code NR 214.	10/01/2031

5.3.1 Explanation of Schedule

An up-to-date Land Treatment Management Plan is a standard requirement in reissued land treatment permits per ch. NR 214, Wis. Adm. Code.

5.4 CMOM Updates

The permittee shall make the required updates to their CMOM and submit the report to the Department.

Required Action	Due Date
Submit Updated CMOM: The permittee shall submit an updated CMOM to the Department by the due date. The updates required are listed in the previous facility inspection report.	01/01/2028

5.4.1 Explanation of Schedule

Several updates to the CMOM were requirements from the previous facility inspection report but were not completed. An updated CMOM shall be submitted to the Department by the due date to help bring the facility back into compliance with s. NR 210.23, Wis. Adm. Code.

5.5 O&M Standard Operating Procedures

Required Action	Due Date
Submit O&M : The permittee shall develop and submit for review and approval a written manual for operation during low loading and temperature conditions. Record specific actions that are taken for further analysis of problems and resolutions. Perform DO, alkalinity, temperature, and MLSS measurements more frequently and record them. Analyze trends in the results over a three-month period and adjust plant operation accordingly.	01/01/2028
Submit SOP's: Create SOP's for operations and maintenance activities. SOP's should be utilized to ensure that reports are submitted on a timely basis following Section 5: Summary of Reports Due in the current WPDES permit. The following SOP's are required in this schedule item: Sampling SOP Records and Filing SOP Preventative Maintenance SOP Operations SOP	01/01/2028

5.5.1 Explanation of Schedule

Updated O&M standard operating procedures were requirements from the previous facility inspection report but were not completed. Updated O&M SOP's shall be submitted to the Department by the due date to help bring the facility back into compliance with applicable portions of s. NR 205.07(1), Wis. Adm. Code.

Attachments

Groundwater Evaluation for Northland Mission Inc. Wastewater Treatment Facility WI-0061140, by Woody Myers, Hydrogeologist, dated September 21, 2026

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: October 7th, 2026