STATEMENT OF BASIS

FOR THE ISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, Permits Branch - WP-16J
77 West Jackson Boulevard
Chicago, Illinois 60604
(312) 886-6106

Public Notice No.: 24-12-03-A

Public Notice Issued On: December 20, 2024

Comment Period Ends: January 21, 2025

Permit No.: MI-0055204-5 (REISSUANCE)

Application No.: MI-0055204-5

Name and Address of Applicant:

Lac Vieux Desert Band of Lake Superior
Chippewa Indians
P.O. Box 249
Watersmeet, Michigan 49969

Name and Address of Facility Where Discharge Occurs:

Lac Vieux Desert Wastewater Facility
Water Tower Road
Lac Vieux Desert Indian Reservation
Watersmeet, Michigan 49969
Gogebic County
(SE ¼ of the NW ¼ of Section 22, Township 45N, Range 39W)

Receiving Water: wetland tributary to Bonifas Creek

DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

The above facility is located within the boundaries of the Lac Vieux Desert Indian Reservation. The EPA has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within the boundaries of Indian Reservations. The EPA is issuing this NPDES permit under the authorities of the Clean Water Act.

The permittee has built and operates a 2-cell wastewater stabilization lagoon. The primary cell is approximately 6.1 acres, and the secondary cell is approximately 2.9 acres. The treated effluent is discharged through Outfall 001 (lat: 46.285455 long: -89.167633) in a controlled manner during the spring and fall to a wetland that is tributary to Bonifas Creek.

The design average influent flow for the facility is 65,000 gallons per day. The treatment system provides service for the Lac Vieux Desert Indian Reservation.

The draft permit requires the applicant to meet the following effluent limitations:

Effluent Characteristics	Discharge Limitations			
	Concentration (Specified Units)			
Parameter	Daily Minimum	Monthly Average	Weekly Average	Daily Maximum
Flow (MGD)	-	Report	-	-
Dissolved Oxygen (mg/L)	5.0	-	-	-
pH (SU)	6.5	-	-	9.0
Total Suspended Solids (TSS) (mg/L)	-	45	65	-
Biochemical Oxygen Demand (BOD_5) (mg/L)	-	30	45	-
Phosphorus, Total (mg/L)	-	Report	-	-
Ammonia (NH_3-N) (mg/L)	-	Report	-	Report
E. coli (#/100ml)	-	126	-	235
BOD_5 percent removal (%)	$\geq$85	-	-	-
TSS percent removal (%)	$\geq$65	-	-	-
Outfall observation (yes/no)	-	-	-	-

Discharge is limited to a maximum 6 inches per day. Discharge flow was calculated as follows:

2.9 acres x 0.5 feet/day (6 inches/day) x 325,900 gallons per acre-ft $\approx$ 0.47 million gallons/day.

Loading limits in the permit were calculated using the following formula:

0.47 mgd x limit (mg/L) x 8.34 = Loading (lbs/d).

Section 401 Water Quality Certification

EPA is the appropriate authority for purposes of certifying the proposed discharge under Section 401 of the CWA within the Lac Vieux Desert Indian Reservation and will be unless and until the Lac Vieux Desert Band of Lake Superior Chippewa is approved for Treatment as a State (TAS) for CWA Sections 303 and 401. EPA is in the process of certifying pursuant to Section 401. EPA believes the effluent limitations included in the draft permit meet tribal and state water quality requirements where they are applicable. The draft certification is available for review. We have discussed our reissuance of the permit with the Lac Vieux Desert Band of Lake Superior Chippewa, the Michigan Department of the Environment, Great Lakes, and Energy (EGLE) and the permittee.

Basis for Permit Requirements
The limits were developed to ensure compliance with 40 C.F.R. § 122.44(d) and 40 C.F.R. Part 133, EPA's water quality criteria and protection of Michigan's water quality standards where they are applicable.

pH
The limits for pH are based on secondary treatment requirements pursuant to 40 C.F.R. Part 133 and Michigan's water quality standards (Part 4, Act 451).

Dissolve Oxygen
A minimum dissolved oxygen discharge limit of 5.0 mg/L is included in the permit based on water quality concerns and protection of Michigan's water quality standards.

5-day Biochemical Oxygen Demand (BOD_5)
The limits for BOD_5 are based on secondary treatment requirements pursuant to 40 C.F.R. Part 133. A weekly average limit of 45 mg/L and a monthly average limit of 30 mg/L are carried over from the previous permit. The permittee has been in substantial compliance with these limits. The weekly average and the monthly average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. The permit also requires a minimum percent removal of 85%.

Total Suspended Solids (TSS)
The limits for TSS are based on equivalent to secondary treatment requirements pursuant to 40 C.F.R. Part 133. A weekly average limit of 60 mg/L and a monthly average limit of 45 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The weekly average and the monthly average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. The permit also requires a minimum percent removal of 65%.

E. coli
The limits for E. coli are based on the EPA's water quality criteria (EPA's 2012 Recreational Water Quality Criteria). The geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml). Any single sample shall not exceed 235 E. coli per 100 ml.

Ammonia, as N
Ammonia was monitored as a pollutant of concern during the last permit term. A maximum value of 7.3 mg/L and CV of 0.5 was used as part of the reasonable potential calculation. A critical effluent concentration of 12 mg/L was calculated. Michigan considers Bonifas Creek as a coldwater stream. To ensure Michigan's water quality standards at the reservation boundary, Michigan's ammonia guidance was used to derive Michigan's calculation based-ammonia criteria. An acute criterion of 11.82 mg/L was determined. Considering that wastewater from the facility is discharged during a 7-hour period periodically during the year, chronic criteria was not considered during the reasonable potential analysis. When accounting for dilution and biological uptake through the wetland, as well as the permeability of the surrounding geology determined

by the 2000 USGS study (*Effects of Wastewater-Lagoon Discharge Through Wetlands on Water Quality in Bonifas Creek, Gogebic County, Michigan*), at this time there is no reasonable potential for the facility to exceed Michigan's acute criteria. The draft permit continues to include effluent monitoring for ammonia. If ammonia values become elevated, a water quality-based effluent limit may be required.

Phosphorus

Phosphorus is a common constituent in many wastewater discharges and a pollutant that has the potential to negatively impact the quality of Michigan's lakes, wetlands, rivers, and streams. Phosphorus promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. In addition to creating general aesthetic problems, these conditions can also impact a water body's ability to support healthy fish and other aquatic species. Therefore, phosphorus discharges are being carefully evaluated throughout the state.

Phosphorus was monitored as a pollutant of concern during the last permit term. Total phosphorus's maximum recorded value was 4.6 mg/L with a low variation in the effluent. A CV of 0.2 was used to determine the critical effluent concentration of 6.44 mg/L. EPA is aware of Michigan's goals to reduce phosphorus discharges to the Great Lakes. EPA considered the infrequency of discharge, adsorption in ground water, dilution, the distance between the facility and Lake Superior, and that Bonifas Creek is listed as unimpaired, and determined that no limit is recommended at this time. The draft continues to include monitoring for phosphorus. If effluent phosphorus concentrations increase in the next permit term, a phosphorus minimization plan and limit may be required.

Per- and Polyfluoroalkyl Substances (PFAS)

PFAS are widely used, long lasting chemicals, components of which break down very slowly over time. Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. PFAS are found in water, air, fish, and soil at locations across the nation and the globe. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.

In September 2024, EPA finalized recommended aquatic life criteria and benchmarks for select PFAS. We looked at the need for PFAS sampling at this facility. Wastewater influent to the facility is from domestic sources with no industrial users. This type of discharge has not been identified as a significant source of PFAS by EPA or EGLE and therefore, no sampling is required at this time. A reopener clause has been added if additional information becomes available indicating monitoring or limits is needed.

Asset Management – Operation & Maintenance Plan

Regulations regarding proper operation and maintenance are found at 40 C.F.R. § 122.41(e). These regulations require, "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant

and the collection system are included in the definition of "facilities and systems of treatment and control" and are therefore subject to the proper operation and maintenance requirements of 40 C.F.R. § 122.41(e).

Similarly, a permittee has a "duty to mitigate" pursuant to 40 C.F.R. § 122.41(d), which requires the permittee to "take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment."

The draft permit requirements are the first steps of an asset management program which contains goals of effective performance, adequate funding, adequate operator staffing and training. Asset management is a planning process that ensures that you get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary, and typically includes five core elements which identify: 1) the current state of the asset; 2) the desired level of service (e.g., per the permit, or for the customer); 3) the most critical asset(s) to sustain performance; 4) the best life cycle cost; and 5) the long term funding strategy to sustain service and performance.

EPA believes that requiring a certified wastewater operator and adequate staffing is also essential to ensure that the treatment facilities will be properly operated and maintained. Mapping the collection system with the service area will help the operator better identify the assets that he/she is responsible for and consider the resources needed to properly operate and maintain them. This will help in the development of a budget and a user rate structure that is necessary to sustain the operation. The development and implementation of a proactive preventive maintenance program is one reasonable step that the permittee can take to demonstrate that it is at all times, operating and maintaining all the equipment necessary to meet the effluent limitations of the permit.

Special Conditions

- The permit requires electronic reporting.
- Dikes must be maintained, and vegetation cut.
- The permit requires the continued implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator to oversee the facility, having adequate staff to help ensure compliance with the permit, mapping the treatment system, developing a preventive maintenance program and other items.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 C.F.R. Parts 122 and 403.
- Compliance with 40 C.F.R. Part 503 (sludge use and disposal regulations). These requirements were developed using the Part 503 Implementation Guidance for sludge and 40 C.F.R. Parts 122, 501, and 503. It is not expected that any sludge will be used or disposed of during this permit term. EPA is to be contacted if sewage sludge is to be removed from the pond system.
- The permit requires that if sewage sludge is to be land applied, the permittee must submit the following information to EPA prior to application:

i. certification that the application contractor has received all necessary information to comply with applicable provisions of 40 C.F.R. Part 503;
ii. site location by latitude and longitude, and code number to identify field or field portion.

1) Plat map showing location of the site relative to local landmarks.
2) Proximity to surface waters of the United States.
3) Potential presence of endangered species.
4) Soil fertility test with fertilizer recommendations.
5) Previous crop and future crop with yield goal.
6) Participation Agreement signed by the landowner or operator, if different, of the site to receive sludge.
7) Determination whether the site has previously been used for sewage applications.
8) If previously used, determination of cumulative pollutant loading rate since July 19, 1993;

iii. certification that the local township supervisor has been notified that a site has been identified and is intended for use;
iv. certification that the County Health Department has been notified that hauling is scheduled to take place; and
v. certification that notice has been provided to landowners and occupants adjacent to or abutting the proposed land application site. Such notice shall be accomplished by one of the following: written notice through the regular mail; public notice in the local newspaper; public reading of notice at open public meeting.

Significant Changes from The Last Permit

Following are the significant changes in the draft permit:

- Change to EPA Region 5 mailing addresses have been made throughout the permit.
- The "Narrative Standard" language has been revised for clarity. (Part I.B.a)
- The 'Stabilization Pond' requirements have been updated. (Part I.D)
- 'Reporting' requirements for electronic submittal of DMRs has been updated. (Part I.E.2)
- 'Operation and Maintenance Plan' requirements have been updated. (Part I.E.5)
- 'Industrial Waste Pretreatment Program' requirements have been updated. (Part I.E.6) 'Sludge Disposal Requirements' have been updated. (Part I.E.7)
- Reopener clause to include additional requirements for PFAS. (Part I.E.8)
- The 'Standard Conditions' have been revised. (Part II)

The permit is based on applications submitted February 16, 2024 (considered complete October 16, 2024), and additional supporting documents found in the administrative record.

The permit will be effective for approximately five years from the date of reissuance as allowed by 40 C.F.R. § 122.46.

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