STATEMENT OF BASIS

FOR THE REISSUANCE OF
A NPDES PERMIT

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

Public Notice No.: 16-04-01-A

Public Notice Issued On: April 29, 2016 **Comment Period Ends: May 31, 2016**

Permit No.: MN-0058611-5 (REISSUANCE) **Application No.: MN-0058611-5**

Name and Address of Applicant:

Mille Lacs Band of Ojibwe
Mille Lacs Public Works
43408 Oodena Drive
Onamia, Minnesota 56359

Name and Address of Facility Where Discharge Occurs:

East Lake Sewage Lagoon
Mille Lacs Indian Reservation
West 364th Lane
East Lake (McGregor), Minnesota
Aitkin County
(NW ¼ of the SW ¼ of Sec 21, T47N, R23W)

Receiving Water: Deciduous lowlands

Description of Applicant's Facility and Discharge

The above named applicant has applied for an NPDES Permit to discharge into the designated receiving water. The facility is located within the exterior boundaries of the Mille Lacs Indian Reservation. The permit will be issued by the U.S. Environmental Protection Agency.

The treatment facility consists of a 2-cell lagoon. The primary cell is 1.0 acre in area and the secondary cell is 0.5 acres in area. The system is serves 35 dwelling units (Apple Orchard Community) and has an average design flow of approximately 10,200 gallons per day. The discharge is controlled, usually occurring during the fall to a lowland area. Wastewater is from domestic sources only. The facility would be rated as a Class D under Minnesota regulations if applicable.

The permittee does not plan to remove any solids from the pond during the permit term.

Proposed Effluent Limitations:

Outfall 001- the permittee is authorized to discharge treated municipal wastewater from Outfall 001. Outfall 001 discharges to deciduous lowlands.

Parameter	Date	Monthly average	Weekly Average	Daily Maximum	Daily Minimum	Comments
Flow	All year	Report	Report	---	---	PWJ
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	All Year	25 mg/L	40 mg/L	---	---	STS
Total Suspended Solids	All Year	45 mg/L	65 mg/L	---	---	STS
Ammonia Nitrogen, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Nitrite Plus Nitrate, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Nitrogen, Kjeldahl, Total	All Year	Report	---	---	---	WQC
Nitrogen, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Sulfates (mg/L)	All Year	Report	---	---	---	WQC
Dissolved Oxygen	All Year	---	---	---	Report	PWJ
E.coli	April 1 – October 31	126 E. coli/100 ml*	---	410 E. coli/100 ml	---	WQS
Total Phosphorus	All Year	Report	---	---	---	WQC
pH	All Year	---	---	9.0 S.U.	6.0 S.U.	STS
Outfall Observation	All Year	Report	---	---	---	PWJ

*Geometric Mean

Discharge flow was calculated as follows:

0.5 acres x 0.5 feet/day (6 inches/day) x 325,900 gallons per acre-ft ≈ 0.081 mgd

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

0.081 mgd x limit (mg/L) x 3.785 = Loading (kg/d).

Comment Key
WQS – Water Quality Standards
WQC – Water Quality Concern
STS – Secondary Treatment Standards (40 CFR part 133)
PWJ – Permit Writer's Judgment

Section 401 Water Quality Certification

EPA is the appropriate authority for purposes of certifying the proposed discharge under Section 401 of the Clean Water Act. Section 401 certification is not needed from the state or the Mille Lacs Band of Chippewa as neither has federally approved water quality standards applicable to

the receiving water at the point of discharge, however, EPA believes the effluent limitations included in the draft permit meet state water quality standards at the reservation boundary.

ESA and NHPA Compliance

EPA has satisfied its requirements under the Endangered Species Act and the National Historical Preservation Act. This is an existing facility with no planned expansion or construction within the permit term. Therefore, it is believed that the reissuance of the permit and the continued operation of the facility and associated discharge will have no effect on endangered or threatened species or their critical habitat and will have no impact on historical, archeological, or cultural resources.

Basis for Permit Requirements

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133 and protection of human health and EPA's water quality criteria, and protection of Minnesota's WQS where they are applicable. In this regard, the draft permit has been shared with the Minnesota Pollution Control Agency (MPCA). The limits in this draft permit are the same as the previous permit as EPA believes they are still applicable. The permittee has generally been in compliance with the limits.

pH

The limits for pH are based on secondary treatment standards pursuant 40 CFR 133. Monitoring indicates the permittee is in substantial compliance with the limits.

5-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

The limits for $CBOD_5$ are based on secondary treatment requirements pursuant to 40 CFR Part 133. A weekly average limit of 40 mg/L and a monthly average limit of 25 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.

Total Suspended Solids (TSS)

The limits for TSS are based on secondary treatment requirements pursuant to 40 CFR Part 133. A weekly average limit of 65 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.

Dissolve Oxygen (DO)

Monitoring for dissolved oxygen is carried over from the previous permit as we believe it is still appropriate. There are no water quality criteria applicable at the point of discharge.

E. coli

The limits for E. coli are based on the 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). The statistical threshold value of 410 E. coli per 100 ml is set as the daily maximum. The limits are applicable April through October. Monitoring indicates the permittee is in substantial compliance with the limits.

Phosphorus

Phosphorus is a common constituent in many wastewater discharges and a pollutant that has the potential to negatively impact the quality of Minnesota'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.

Based on existing effluent data, low discharge flow and receiving water, EPA does not believe there is a reasonable potential that the discharge will cause or contribute to a violation of Minnesota's River Eutrophication Standards at the reservation boundary and therefore no limits are included. Monitoring is still required as the information will be used with the Phosphorus Management Plan required below.

The permittee is also required to prepare a Phosphorus Management Plan (PMP) and submit it to the EPA at least 180 days prior to permit expiration. While the PMP does not require specific reductions at this time, the EPA strongly encourages you to identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, your wastewater treatment facility.

Nitrogen

Nitrogen is a pollutant that can negatively impact the quality of Minnesota's water resources, including water used for drinking. Studies have shown that nitrogen in lakes and streams has a toxic effect on aquatic life such as fish. Like phosphorus, nitrogen is a nutrient that promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. In 2013 the MPCA completed a draft Statewide Nutrient Reduction Strategy (http://www.pca.state.mn.us/zihy1146) which identifies goals and milestones for nitrogen reductions for both point and non-point nitrogen sources within Minnesota. EPA agrees with the goals of the strategy. To gain a better understanding of the current nitrogen concentrations and loadings received by and discharged from your facility additional influent and effluent nitrogen monitoring has been added to the permit. The permit includes influent and effluent monitoring for Ammonia Nitrogen, Nitrite plus Nitrate-Nitrogen, Total Kjeldahl Nitrogen, and Total Nitrogen at a frequency of twice per year for the five-year term of the permit. There is no nitrogen limit in the permit.

Total Sulfates

Though it is unclear whether the discharge reaches a wild rice water, monitoring is required to provide information related to sulfate levels being discharged from wastewater treatment ponds and the possible impacts to wild rice waters. If it is determined that the effluent reaches wild rice waters, the data will be used to determine if the discharge will cause or contribute to a violation of Minnesota's water quality standard for sulfates in wild rice waters.

Asset Management – Operation & Maintenance Plan

Regulations regarding proper operation and maintenance are found at 40 CFR § 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 CFR § 122.41(e).

Similarly, a permittee has a "duty to mitigate" pursuant to 40 CFR §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 the development and implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator (Minnesota Class D) 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.

- Dikes must be maintained and vegetation cut.

- Submittal of a Phosphorus Management Plan at least 180 days prior to permit expiration.

- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 CFR Parts 122 and 403.

- Compliance with 40 CFR Part 503 (sludge use and disposal regulations), though no sludge is expected to be used or disposed of during the permit term.

- The permit requires that a tracer study be conducted during the next scheduled discharge to determine if the discharge flow toward the Rice River.

Significant Changes from the Previous Permit

The draft permit contains the following changes from the last issued permit:

1. Added 'Summary of Regular Reporting'.

2. A daily maximum limit for E. coli has been added to be consistent with 40 CFR § 122.45(d) and EPA 2012 Recreational Water Quality Criteria.

3. Added influent and effluent monitoring for Ammonia Nitrogen, Nitrite plus Nitrate-Nitrogen, Total Kjeldahl Nitrogen, and Total Nitrogen.

4. The permit requires weekly observations of the outfall to look for unusual characteristics of the discharge and install and maintain protection measures to prevent erosion.

5. The Stabilization Pond requirements have been updated (Part I.D).

6. The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.E.2).

7. Requirements related to Asset Management have been added (Part I.E.5).

8. Requirement to submit a Phosphorus Management Plan (Part I.E.6).

9. The Industrial Waste Pretreatment Program language has been updated (Part I.E.7).

10. The 'Sludge Disposal Requirements' have been updated (Part I.E.8).

11. Requirement to conduct a tracer study has been added (Part I.E.10).

12. The "Standard Conditions" have been revised (Part II).

The permit is based on an NPDES application dated April 7, 2015 and additional documents found in the administrative record.

This permit will be effective for approximately five years from the date of issuance as allowed by regulation.

Written By: John Colletti April 2016
U.S. EPA, Region 5, WN-16J
77 West Jackson Blvd.
Chicago, IL 60604
(312) 886-6106