STATEMENT OF BASIS

FOR THE REISSUANCE OF
A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, NPDES Programs Branch - WN-15J
77 West Jackson Boulevard
Chicago, Illinois 60604
(312) 886-6106

Public Notice No.: 17-07-02-A

Public Notice Issued On: July 31, 2017

Comment Period Ends: August 30, 2017

Permit No.: WI-0036498-4 (REISSUANCE)

Application No.: WI-0036498-4

Name and Address of Applicant:

Lac du Flambeau Band of Lake Superior
Chippewa Indians
P.O. Box 67
Lac du Flambeau, Wisconsin 54538

Name and Address of Facility Where Discharge Occurs:

Lac du Flambeau Lagoon
Lac du Flambeau Indian Reservation
Lac du Flambeau, Wisconsin 54538
Vilas County
(NW ¼ of NW ¼ of S9, T40N, R5E)

Receiving Water: Unnamed Wetland prior to Moss Lake

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 boundaries of the Lac du Flambeau Band of Lake Superior Chippewa Indian Reservation. The U.S. Environmental Protection Agency has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within Indian Country. The permit will be issued by the EPA under the authorities of the Clean Water Act.

The application and plans indicate that the existing wastewater treatment system consists of four cells operate in series. The primary cell is 18.4 acres in area and the secondary cell is 10 acres in area. The third and fourth cells are 5 acres in area each and are used as seepage cells. If needed, the fourth cell has an outlet structure that discharges to an unnamed wetland prior to Moss Lake. The average design flow rate to the lagoon is approximately 180,000 gallons per day (gpd).

Since the facility was designed as a subsurface discharge system, the facility was not designed to remove phosphorus and the permittee has not been treating to remove phosphorus. Due to increasing flow to the facility, the permittee has begun to routinely use the outlet structure on a

controlled basis to discharge directly to the wetland during the wet seasons. The permittee will be using this permit term to look at ways to optimize phosphorus removal at the facility.

The permittee is also looking at alternatives to remove the discharge from the Moss Lake Watershed. They are in the process of designing a plan to move the discharge to a new location that will have a new subsurface discharge.

Proposed Effluent Limitations:

Outfall 001- the permittee is authorized to discharge treated municipal wastewater from Outfall 001. Outfall 001 discharges to an unnamed wetland prior to Moss Lake.

Parameter	Date	Monthly average	Weekly Average	Daily Maximum	Daily Minimum	Comments
Flow	All year	Report	Report	---	---	PWJ
Biochemical Oxygen Demand (BOD_5)	All Year	30 mg/L	45 mg/L	---	---	STS
Total Suspended Solids	All Year	30 mg/L	45 mg/L	---	---	STS
Ammonia Nitrogen, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Temperature (°F)	All Year	Report	---	Report	---	WQC
Dissolved Oxygen	All Year	---	---	---	5.0	WQS
Mercury, Total (ng/L)	All Year	Report	---	---	---	WQC
Sulfate, Total (mg/L)	All Year-	Report	---	---	---	WQC
E. coli	All Year	126 E. coli/100 ml*	---	940 E. coli/100 ml	---	WQS/anti-backsliding
Total Phosphorus (effective 7/31/2020)	All Year	1.0 mg/L	2.0 mg/L	---	---	WQC
pH	All Year	---	---	9.0 S.U.	6.0 S.U.	STS

*Geometric Mean

Loading limits in the permit were calculated using the following formula based on the design flow:

5.08 acres * ($3.259 * 10^5$ gallons/acre/foot) * 0.5ft/d = 0.81475 mgd

0.81 mgd x limit (mg/l) x 8.34 = Loading (lbs/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

Where states or tribes have federally approved water quality standards that are applicable at the point of discharge, federal NPDES permits cannot be issued unless water quality certification for the discharge is granted or waived pursuant to Section 401 of the Clean Water Act. The Tribal Section 401 authority within the Lac du Flambeau Indian Reservation is the Lac du Flambeau Tribal Natural Resource Department. A copy of the permittee's NPDES permit application and a copy of the draft NPDES permit have been provided to the Tribal Natural Resource Department. If the Tribal Natural Resource Department needs any additional information in order for the Section 401 application to be considered complete, the Tribal Natural Resource Department will request such information from the permittee. It is the permittee's responsibility to ensure that the Tribal Natural Resource Department has received a valid, complete application for tribal Section 401 certification and to obtain a final Section 401 action from the Tribal Natural Resource Department.

ESA and NHPA Compliance

EPA has satisfied its requirements under the Endangered Species Act and the National Historical Preservation Act. Though construction may occur at the facility, most of the construction is expected to be within the same footprint of the existing facility. If new seepage cells are built at a new location, ESA and NHPA compliance will be looked at prior to that construction. 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 Part 133 and Lac du Flambeau Indian Reservation Water Quality Standards and Wisconsin Water Quality Standards where they are applicable. In this regard, the Wisconsin Department of Natural Resources and the Tribe were consulted. In accordance with the Lac du Flambeau Indian Reservation Water Quality Standards, the receiving wetland has the following designated uses: Fish and Aquatic Life, Secondary Water Contact, Wildlife Protection, Wild Rice, and Industrial, Agricultural or Aquacultural Water Supply. The permit also requires monitoring for mercury, ammonia, sulfate and temperature to collect data for the next permit issuance and requires compliance with 40 CFR Part 403 to prevent any pass through of pollutants or any inhibition or disruption of the permittee's facility and 40 CFR Part 503 when sludge is used or disposed.

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 Biochemical Oxygen Demand (BOD_5)

The limits for BOD_5 are based on secondary treatment requirements pursuant to 40 CFR Part 133. A weekly average limit of 45 mg/L and a monthly average limit of 30 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. We believe the limits are protective of the Tribe's dissolved oxygen standard downsteam of the wetland at Moss Lake.

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 45 mg/L and a monthly average limit of 30 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)
Though the Tribe's water quality standards do not have dissolved oxygen criteria for wetland discharges, the permit includes a minimum dissolved oxygen limit of 5.0 mg/L to help protect the water quality of Moss Lake. Monitoring data indicate that the facility can achieve this limit and therefore a compliance schedule is not needed and the limit will be effective upon issuance of the permit.

E. coli
The existing permit has an E. coli limit that was based on EPA water quality criteria; the geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml). This limit was included in the permit prior to the Tribe obtaining federally approved water quality standards. Normally, the limits for E. coli in the draft permit would been based on the Tribe's bacteriological water quality criteria (206 E. coli/100 ml as a monthly geometric mean), however, since the permittee has been in compliance with the existing monthly average limit, anti-backsliding regulations found at 40 CFR 122.44(l) requires the draft permit be written using the existing limit. The Tribe's criteria also require a not to exceed single sample maximum of 940 E. coli/100 ml maximum. This limit has been included as the previous permit did not have daily maximum limit. The limits are applicable all year as required by the Tribe's water quality standards. 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 Wisconsin'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.

To be protective of the Tribe's general water quality criteria, the draft permit has new phosphorus limits of 1.0 mg/L (7.0 lbs/d) as a monthly average and 2.0 mg/L (14.0 lbs/d) as a weekly average. Since the facility was not designed to specifically remove phosphorus and monitoring data indicates the effluent does meet the limits, a compliance schedule has been included as allowed by the Tribe's water quality standards and in accordance with 40 CFR 122.47. EPA believes a compliance schedule of approximately three years will provide sufficient time for the permittee to come into compliance. The schedule requires the submittal of an operational evaluation report and a study of feasible alternatives. Compliance is required by July 31, 2020.

Ammonia Nitrogen

Over the last three years, effluent data shows an average of 2.58 mg/L as a 7 day average and an average of 2.17 mg/L as a 30 day average. Using the same timeframe as ammonia, the average maximum effluent pH is 8.4 S.U. It is believed that at this maximum pH value, there is probably a reasonable potential that the facility will cause or contribute to a violation of the Tribe's ammonia water criteria. However, the permittee is only allowed to discharge from March 1 through June 30 and September 16 through December 31. At this time, we do not have temperature or pH data relative to the receiving water so we do not know whether the Tribe's ammonia criteria are actually being violated. The facility discharges to a wetland which eventually drains to Moss Lake over a ¼ mile away. EPA does not believe that at current levels in the discharge aquatic life in the wetland will be impacted by ammonia toxicity, especially if the discharge occurs during the colder months. Also, the permittee wants to move its discharge from this watershed during the permit term. Therefore, the permit requires monitoring only and it also requires temperature monitoring.

Temperature

This permit requires temperature monitoring for calculating future ammonia limits and to obtain data to determine if the discharge has a reasonable potential to cause or contribute to a violation of the Tribe's and/or Wisconsin's water quality standards. As the state's water quality standards are not applicable at the point of discharge, however, we do not believe the temperature standards would be violated at the reservation boundary. We do recognize that aquatic life do not discern boundaries and will include effluent temperature monitoring in the permit with a reopener to possibly modify the permit to include temperature limits at a later time.

Mercury

To help determine whether the permittee can meet the Tribe's Wildlife and Human Health Water Quality Criteria, the permit will require monitoring for mercury for this permit term. A Pollutant Minimization Program for mercury is also included in the permit to help identify possible sources of mercury in the system.

Total Sulfates

The permittee discharges to a wetland which has as one of its designated uses as supporting wild life habitat for sustainable growth and consumption. Though it is unclear whether there are existing wild rice beds within the wetland, monitoring is required to provide information related to sulfate levels being discharged from wastewater treatment ponds and the possible impacts to wild rice waters. The data will be used to determine if the discharge will cause or contribute to a violation of the Tribe's water quality standard for sulfates in wild rice waters.

Groundwater Monitoring

The permit also contains a section related to groundwater monitoring. The principle discharge is to groundwater through seepage cells. Due to the proximity of the treatment system to a wetland and a recreational lake, there is concern that the groundwater discharge may impact these waters and the groundwater itself. Monitoring wells were installed during the last permit term. Data collected from the wells do not indicate any impacts from the discharge at this time. The permit language was modeled after language found in Wisconsin groundwater discharge permits.

Electronic Reporting

EPA finalized Electronic Reporting Rule on December 21, 2015. Individual permit holders were required to submit DMRs electronically beginning no later than December 21, 2016. The permit includes language on electronic submission of DMRs. The permittee has been submitting its DMRs electronically.

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

- Electronic reporting is required.

- The permit requires the development and implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator (equivalent to a Wisconsin Class A4 and P) 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.

- A Pollutant Minimization Program for mercury must be developed and implemented.

- Schedule of compliance for phosphorus.

- As a condition of this permit, the permittee shall monitor the discharge from monitoring point 001 for the constituents listed below. This monitoring is an application requirement of 40 CFR 122.21(j), effective December 2, 1999.

- 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). If sludge is removed from the facility for use or disposal, EPA must be notified at least 30 days prior to removal.

- The permit can be reopened based on temperature data collected.

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. The treatment plant description has been revised.

3. A daily maximum limit for E. coli has been added to be consistent with 40 CFR §122.45(d) and the Tribe's Water Quality Criteria.

4. A daily minimum limit for dissolved oxygen has been added.

5. New monitoring requirements for mercury, sulfates and temperature have been added.

6. 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.

7. Changed the hours for influent monitoring to between 9:00 am and 1:00 pm.

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

9. The groundwater monitoring wells have been renamed (Part I.E.1).

10. Requirements for submission of DMRs electronically (Part I.F.2).

11. Requirements for a Pollutant Minimization Program for mercury has been added (Part I.F.5).

12. Requirements related to Asset Management have been added (Part I.F.6).

13. A compliance schedule for a new phosphorus limit has been added (Part I.F.7).

14. The Industrial Waste Pretreatment Program language has been updated (Part I.F.9).

15. The 'Sludge Disposal Requirements' have been updated (Part I.F.10).

16. A reopener clause for temperature has been added (Part I.F.11)

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

The permit is based on an NPDES application dated January 29, 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: Sreedevi Yedavalli/John Colletti July 2017
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