

STATEMENT OF BASIS

FOR THE ISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, NPDES Programs Branch - WN-16J
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Public Notice No.: 13-09-01-A

Public Notice Issued On: September 9, 2013

Comment Period Ends: October 9, 2013

Permit No.: WI-0036188-3 (REISSUANCE)

Application No.: WI-0036188-3

Name and Address of Applicant:

Stockbridge-Munsee Utility Department
Stockbridge-Munsee Community
N8618 Oak Street
Bowler, Wisconsin 54416

**Name and Address of Facility
Where Discharge Occurs:**

Stockbridge-Munsee Community
Wastewater Ponds
W13438 Birch Street
Bowler, Wisconsin 54416
Stockbridge-Munsee Indian Reservation
Shawano County

(N.E. ¼ of Section 16 of Township 28N, Range 13E)

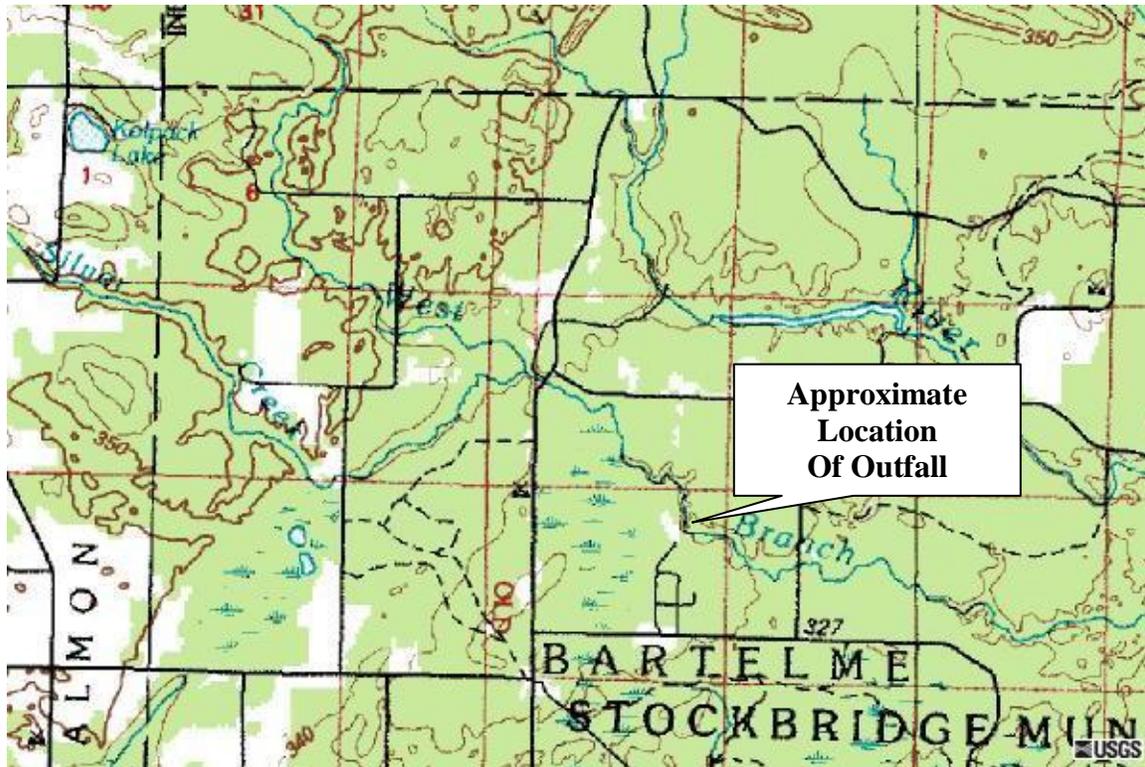
Receiving Water: West Branch of the Red River

DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

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

Treatment Facility Description:

The Stockbridge-Munsee Band of the Mohican Indians operates a wastewater treatment system to serve the community in northern Shawano County, Wisconsin. The treatment works consists of a series of facultative lagoons, located in the NE ¼ of Section 16, T 28 N, R 13 E. The ponds are operated on a fill-and-draw basis, discharging treated effluent to the West Branch of the Red River at approximately Latitude 44° 54' 37" North and Longitude 88° 55' 30" West, in the "Red River Watershed" (WR 16) in the Wolf River Basin.



The existing system consists of a 3-cell wastewater pond. Cell 1 is 6.36 acres in area. Cell 2 is approximately 3.1 acres in area. Cell 3 is 0.68 acres in area. Cells 2 and 3 are interconnected and act as one cell for filling and discharging purposes. The discharge pipe is located in Cell 3. The discharge is controlled, usually occurring once a year.

The design average influent flow for the system is 0.039 mgd. The wastewater is from domestic sources only.

Outfall 010 – Final

<u>Effluent Characteristics</u>	Discharge Limitations			
	Concentration (Specified Units)			
Parameter	Minimum	Monthly	Weekly	Maximum
Flow (mgd)	-	-	-	-
Dissolved Oxygen (mg/L)	4.0	-	-	-
pH (SU)	6.0	-	-	8.5
Total Suspended Solids (TSS) (mg/L)	-	60	90	-
Biochemical Oxygen Demand (BOD ₅) (mg/L)	-	30	45	-
Phosphorus, Total (mg/L)	-	Report	-	-

Ammonia, as N (mg/L)	-	-	-	4.28
E. coli (#/100ml)	-	126	-	235
BOD ₅ percent removal (%)	85	-	-	-
TSS percent removal (%)	65	-	-	-
Outfall observation (yes/no)	-	Report	-	-

Discharge is limited to a maximum 3 inches per day. Discharge flow was calculated as follows:

3.78 acres x 0.25 feet/day (3 inches/day) x 325,900 gallons per acre-ft \approx 0.31 million gallons/day.

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

$(0.31 \text{ mgd} * \text{limit (mg/L)} * 8.34) = \text{Loading (lbs/d)}$.

Section 401 Water Quality Certification

EPA is the appropriate authority for purposes of certifying the proposed discharge under Section 401 of the Clean Water Act. Section 401 certification is not needed from the state or the Stockbridge-Munsee Community as neither has federally approved water quality standards applicable to the receiving water at the point of discharge.

Basis for Permit Requirements

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133, EPA's water quality criteria and protection of Wisconsin's water quality standards where they are applicable. The Wisconsin Department of Natural Resources has designated the West Branch of the Red River as a Class II Trout Stream. Though the Stockbridge-Munsee Community does not have its own water quality designation of the receiving stream, it would agree with the state's designation. To be sufficiently protective of the high quality receiving water, EPA worked with the state and the Stockbridge-Munsee Community to develop limits we believe are protective of Wisconsin water quality standards where they are applicable. The calculations are part of the administrative record. The U.S. Geological Survey determined the low flow frequency statistics for the West Branch of the Red River near the discharge to be: Annual $Q_{7,10} = 18$ cfs; Annual $Q_{7,2} = 22$ cfs.

pH

The limits for pH are based on secondary treatment requirements pursuant to 40 CFR Part 133. The daily maximum limit has been reduced to 8.5 S.U. to reduce possible ammonia acute toxicity.

5-day Biochemical Oxygen Demand (BOD₅)

The limits for BOD₅ are based on secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 45 mg/L and a 30-day average limit of 30 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The 7-day average and the 30-day 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 equivalent to secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 90 mg/L and a 30-day average limit of 60 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The 7-day average and the 30-day average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

E. coli

The limits for E. coli are based on the EPA's 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.

Phosphorus

As there are no federally-approved water quality standards that apply at the discharge, we need to ensure that the state's water quality standards are protected at the downstream reservation boundary. The instream water quality criterion for phosphorus applicable in the West Branch of the Red River is 0.075 mg/L. We looked at guidance from the WDNR on they would develop a water quality based effluent limit based on this criterion. Since this facility discharges intermittently, the guidance suggests determining the effluent flow on a case-by case basis. We looked at the maximum allowed daily flow during discharge (0.31 mgd) and the design average influent flow (0.039) as possible flows to use in calculating the limit. The Stockbridge-Munsee Community provided instream phosphorus data so that we could determine the background concentration. The median value is 0.029 mg/L. Using these values and the $Q_{7.2}$ (22 cfs), the calculated water quality based limits would be 2.18 mg/L and 16.94 mg/L. Using the maximum allowed daily flow is not appropriate since the facility does not discharge at this level year round. If you assume that the facility can discharge at this level for it entire discharge period, which is not feasible, that would reduce the yearly average flow to 0.155 mgd. The water quality based limit using this flow would be 4.29 mg/L. This flow would be conservative since the facility only discharges a few weeks of the year. Based on the facilities existing effluent quality, we do not believe the discharge has a reasonable potential to cause or contribute to a violation of the state's water quality standard for phosphorus at the downstream reservation boundary. The permit will however, require monitoring and a pollutant minimization program (PMP) to further reduce influent phosphorus levels. The PMP should also help to reduce potential phosphorus discharges.

Ammonia

As there are no federally-approved water quality standards that apply at the discharge, we need to ensure that the state's water quality standards are protected at the downstream reservation boundary. Using WDNR procedures, we calculated new ammonia limits. The ammonia worksheet is included in the administrative record. As the calculated daily maximum limit is more stringent than the calculated weekly and monthly average limits, the permit will include a year round daily maximum limit of 4.28 mg/L. Past performance of the facility indicates that the permittee should be in substantial compliance with the new limit.

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 a pollutant minimization program for phosphorus.
- The permit requires the development and 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 CFR Parts 122 and 403.
- Compliance with 40 CFR Part 503 (sludge use and disposal regulations). These requirements were developed using the Part 503 Implementation Guidance for sludge and 40 CFR 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.
- Dikes must be maintained and vegetation cut.

Significant Changes From The Last Permit

Following are the significant changes in the draft permit:

- A daily maximum limit for E. coli has been added to be consistent with 40 CFR § 122.45(d).
- During discharge, the permit requires weekly observations of the outfall to look for unusual characteristics of the discharge.
- The section “Special Requirements – Stabilization pond” has been updated (Part I.D).
- Requirements related to Asset Management have been added (Part I.E.5).
- A pollutant minimization program for phosphorus has been added (Part I.E.6).
- The Industrial Waste Pretreatment Program language has been updated (Part I.E.7).
- The Sludge Disposal Requirements language has been updated (Part I.E.8).
- The “Standard Conditions” have been revised (Part II).

ESA and NHPA Compliance

EPA believes it has satisfied its requirements under the Endangered Species Act and the National Historical Preservation Act. As this is an existing discharge, with no planned construction during the permit term, EPA believes that the issuance of the permit and the continued operation of the facility will have no effect on endangered or threatened species or their critical habitat and will have no impact to historical, archeological, or cultural resources.

The permit is based on an application dated January 31, 2013 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 CFR § 122.46.

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