

# STATEMENT OF BASIS

## FOR THE ISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency  
Region 5, NPDES Programs Branch - WN-15J  
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**Public Notice No.: 18-03-01-A**

**Public Notice Issued On:** March 2, 2018

**Comment Period Ends:** April 2, 2018

**Permit No.: MN-0067938-3 (REISSUANCE)**

**Application No.: MN-0067938-3**

**Name and Address of Applicant:**

Shakopee Mdewakanton Sioux Community  
2330 Sioux Trail NW  
Prior Lake, Minnesota 55372

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

SMSC Water Reclamation Facility  
Shakopee Mdewakanton Sioux Indian  
Reservation  
15364 Orion Road  
Prior Lake, Minnesota  
Scott County

**Receiving Water:** Unnamed Wetland Complex

### **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 and discharge are located within lands held in trust for the Shakopee Mdewakanton Sioux Community (SMSC). The permit will be issued by the U.S. Environmental Protection Agency. The Supreme Court has held in a variety of contexts that tribal trust lands are reservations whether or not they are part of a formally established reservation. Oklahoma Tax Comm'n v. Citizen Band Potawatomi Indian Tribe of Oklahoma, 498 U.S. 505, 511(1991); United States v. John, 437 U.S. 634, 649 ((1978) (finding no apparent reason" why lands held in trust should not be considered reservations under §1151(a)). This interpretation has been upheld recently in the environmental context in Arizona Pub. Service Co. v. U.S. Environmental Protection Agency, 211 F.3d 1280 (D.C. Cir. 2000) where the court upheld EPA's regulations governing the authority of Indian tribes to carry out certain provisions of the Clean Air Act.

The applicant owns and operates a wastewater treatment facility. Preliminary treatment removes grit and other large objects from the waste stream by screening and grit removal, while primary treatment, consisting of parallel plate clarifiers, removes a significant portion of the solids, phosphorus and CBOD from the waste stream. During secondary treatment, the wastewater is

treated by a Biologically Aerated Filter (BAF) process. These filters use bacteria to remove oxygen-demanding wastes and particulates from the wastewater. The BAF is located in a single completely self-contained structure. The BAF uses a combination of pre-screening, aeration and filter media for a complete biological treatment system. The construction uses multiple cells to allow a small and flexible footprint. Tertiary treatment consists of membrane filtration followed by ultraviolet disinfection. The average dry weather design flow is 0.96 million gallons per day with a design average wet weather design flow of 1.50 million gallons per day. The effluent discharges through Outfall 001 to a wetland complex (Latitude: 44°43'27.356" N, Longitude: 93°28'17.184" W). From late spring to early fall, a portion of the treated effluent (4,800 gallons per day) that would normally be discharged through Outfall 001 can be pumped to a small fountain/waterfall (Outfall 002) located on the treatment plant grounds for aesthetics. Outfall 002 discharges to the same wetland complex but in a different location (Latitude: 44°43'39.625" N, Longitude: 93°27'55.176" W).

Sewage sludge generated throughout the treatment process is dewatered using belt filter presses, then heat dried. The treated product (biosolids) is sent to the SMSC Organics Recycling Facility to be blended with other materials to make compost or taken to a municipal solids waste landfill for disposal. The SMSC Organics Recycling Facility is not operated by the Public Works Department.

It should be noted that during the previous permit term, the permittee began expanding the facility. The expansion is scheduled to be complete prior to the issuance of this permit. The above facility description includes the updated flows.

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

Parameter	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration			
	30-Day	7-Day	Daily	Units	30-Day	7-Day	Daily	Units
Flow	Report	---	Report	MGD	---	---	---	---
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )								
	91	145	---	kgs/day	16	26	---	mg/L
Total Suspended Solids (TSS)								
	109	163	---	kgs/day	19	29	---	mg/L
Total Phosphorus (as P)								
	3.6	---	7.2	kgs/day	0.63	---	1.3	mg/L
E. coli	---	---	---	---	126	---	235	E.coli/100 ml
					Minimum Daily		Maximum Daily	
pH	---	---	---	---	6.5	---	9.0	S.U.
Dissolved Oxygen								
	---	---	---	---	5.0	---	---	mg/l

Loading limits in the permit were calculated using the following formula based on the average wet weather flow:

$$1.50 \text{ mgd} \times \text{limit (mg/L)} \times 3.78 = \text{Loading (kg/d)}.$$

**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 Shakopee Mdewakanton Sioux Community as neither has water quality standards applicable to the receiving water at the point of discharge.

**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 does not believe that the issuance of the permit will have any effect on endangered or threatened species or their habitat and that no historic or cultural properties will be affected.

**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 Minnesota's water quality standards where they are applicable.

**pH**

The limits for pH are based on secondary treatment requirements pursuant to 40 CFR Part 133.

**5-Day Carbonaceous Biochemical Oxygen Demand(CBOD<sub>5</sub>)**

The load limits in the previous permit for CBOD<sub>5</sub> were based on the previous plant flow capacity and secondary treatment requirements pursuant to 40 CFR Part 133. To avoid degradation of the receiving stream, the load limits from the previous permit are carried over into this permit and new, more stringent concentration limits are included in the permit based on the increased capacity. A 7-day average limit of 26 mg/L and a 30-day average limit of 16 mg/L are included in the permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. Monitoring indicates the permittee is in substantial compliance with the new limits.

**Total Suspended Solids (TSS)**

The load limits in the previous permit for TSS were based on the previous plant flow capacity and secondary treatment requirements pursuant to 40 CFR Part 133. To avoid degradation of the receiving stream, the load limits from the previous permit are carried over into this permit and new, more stringent concentration limits are included in the permit based on the increased capacity. A 7-day average limit of 29 mg/L and a 30-day average limit of 19 mg/L are included in the permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. Monitoring indicates the permittee is in substantial compliance with the new limits.

**E. coli**

The limits for E. coli are based on the EPA's water quality criteria in existence at the time the previous permit was drafted. 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. New water quality criteria were published in 2012 (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. Since the permittee has been in substantial compliance with the existing permit limits, in accordance with 40 CFR 122.44(l) (anti-backsliding), the limits from the previous permit have been carried over into the draft permit.

### **Phosphorus**

The receiving water is not impaired for nutrients at the point of discharge or at the reservation boundary. To protect the receiving stream against nuisance plant growth problems and ensure that Minnesota's Water Quality Standards are met at the reservation boundary and in accordance with the state's Phosphorus Strategy, the previous permit contained a 30-day average limit for total phosphorus of 1.0 mg/L and a daily maximum limit of 2.0 mg/L and corresponding load limits. As with CBOD<sub>5</sub> and TSS, this permit will keep the existing load limits and new, more stringent concentration limits are included. The new limits are 0.63 mg/L as a 30-day average and 1.3 mg/L as a daily maximum.

There has been a question on the possible impacts the discharge may have on Dean Lake. Dean Lake is on the 2006 303(d) list for impaired waters due to excess nutrients. According to data and modeling conducted by the SMSC and its consultant, "there is a very low likelihood that effluent [from the facility] will reach Dean Lake due to the location of a losing reach between the discharge point and Dean Lake." EPA agrees that until such time that a total maximum daily load study can be conducted for the lake, additional sources of nutrients should be minimized. Though it is not believed that any effluent will actually reach Dean Lake during the growing season, the SMSC has also indicated that nearly the entire additional volume of water added to the discharge wetland and subsequent downstream wetlands from the discharge will be used for irrigation on the Meadows at Mystic Lake Golf Course. The permit also states that additional conditions may be required based on a federally approved TMDL and corresponding implementation plan if applicable to the discharge.

### **Dissolve Oxygen**

A minimum dissolved oxygen discharge limit of 5.0 mg/L is included in the permit based on water quality concerns.

### **Additional Monitoring**

In accordance with 40 CFR § 122.21(j)(4)(iv)(C), EPA is requiring the permittee to monitor for the parameters found in Table 2 of Appendix J to 40 CFR Part 122 one time during the permit term with the data to be submitted with the next permit renewal application. The data will be used to determine if additional limits may be needed in the next permit.

### **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 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 requires monitoring for the additional pollutants found in 40 CFR 122 Appendix J, Table 2.
- 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) (Part III of the permit). Part III was developed using the Part 503 Implementation Guidance for sludge and 40 CFR Parts 122, 501, and 503.
- The permit requires the permittee to notify EPA if its sewage sludge is disposed of using a method other than taking it to a landfill or taking it to the SMSC Organics Recycling Facility.

### **Significant Changes from the Last Permit**

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

1. The ‘Facility Description’ has been updated.
2. Added ‘Summary of Regular Reporting’.
3. Revised concentration limits for CBOD<sub>5</sub>, TSS and phosphorus. (Part I.A.1)

4. The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.B.2)
5. Additional requirements related to Asset Management have been added. (Part I.B.3)
6. The 'Additional Sludge Requirements' has been revised. The land application site has been removed. (Part I.B.5)
7. The 'Sewage Sludge Requirements' have been updated. (Part III)

The permit is based on applications dated May 24, 2016 (2A) and June 29, 2016 (2S) 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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