

# 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.:** 15-03-01-A

**Public Notice Issued On:** March 11, 2015

**Comment Period Ends:** April 10, 2015

**Permit No.:** MI-0057366-3 (REISSUANCE)

**Application No.:** MI-0057366-3

Name and Address of Applicant:

Name and Address of Facility Where  
Discharge Occurs:

Hannahville Indian Community  
Water Operations Department  
N14911 Hannahville B1 Road  
Wilson, Michigan 49896

Hannahville Indian Community WWTP  
Hannahville Indian Reservation  
Harris Township, Michigan  
Menominee County  
(South ½ of the SE ¼ of the NE ¼ of the  
SW ¼ of Section 12, and the North ½ of the  
NE ¼ of the SE ¼ of the Section 12,  
Township 38N, Range 25W)

Permit No.: MI-0057366-3

**Receiving Water:** Wetland which is a part of the Depas Creek watershed

### **Treatment Facility Description**

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 Hannahville Indian Community. 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 permittee completed the construction of Phase I of its wastewater treatment plant. Phase I includes headworks screening, a pre-equalization basin, two sequencing batch reactors (SBRs) system with biological and chemical treatment for phosphorus removal, post-equalization, and ultraviolet disinfection. The treated effluent flows through a diffuser into a wetland which is part of the Depas Creek watershed. Phase I is designed to treat an average daily flow of 230,000 gallons per day. The facility has been in operation since 2006. Phase II construction will begin

in the near future to handle future growth, by adding two additional SBR units. After the completion of Phase II, the facility is designed to treat 456,000 gallons per day. Wastewater is from domestic sources only, including flows from the Hannahville Indian Community, Bark River Township and a casino.

Solids from the SBR units are collected and pumped to an aerobic digester. The permittee may also use geotech drying media to further reduce the volume of sludge to be land applied. The plant has 180-days of sludge storage. The sludge is land applied to farmland held in trust for the Hannahville Indian Community.

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

**Proposed Effluent Limitations:**

**Monitoring Point 001A-** the permittee is authorized to discharge of treated municipal wastewater from Monitoring Point 001A through Outfall 001. Outfall 001 discharges to a wetland.

Parameter	Date	30-day average	7-day Average	Daily Maximum	Daily Minimum	Comments
Flow	All year	Report		Report	---	PWJ
Biochemical Oxygen Demand (BOD <sub>5</sub> )	All Year	20 mg/L	30 mg/L			WQC
Total Suspended Solids	All Year	20 mg/L	30 mg/L			WQC
Ammonia	May 1- Sept. 30	15 mg/L		26 mg/L		WQBEL
	Oct. 1- Apr. 30			26 mg/L		WQBEL
Dissolved Oxygen	All Year				4 mg/L	WQS
E.coli	March 1 – October 31	126 E. coli/100 ml*		410 E. coli/100 ml		WQS
Total Phosphorus	All Year	1.0 mg/L	2.0 mg/L			WQS
Total Mercury	All Year	5.0 ng/L				WQC
pH	All Year			8.0 S.U.	6.5 S.U.	WQS/WQC

\*Geometric Mean

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

Phase I:  $0.23 \text{ mgd} \times \text{limit (mg/L)} \times 8.34 = \text{Loading (lbs/d)}$

Phase II:  $0.456 \text{ mgd} \times \text{limit (mg/L)} \times 8.34 = \text{Loading (lbs/d)}$

\* Phosphorus limits will be lowered to 0.5 mg/L and 1.0 mg/L upon completion of Phase II construction.

**Comment Key**

WQBEL – Water Quality Based Effluent Limit  
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 Hannahville Indian Community as neither has federally approved water quality standards applicable to the receiving water at the point of discharge, however as stated above, 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. Though there may be an expansion or construction within the permit term, it will occur within the existing footprint of the facility which has been previously disturbed. 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 Michigan’s WQS where they are applicable. It should be noted that this permit does not allow for an increase in loading when compared with the previous permit. The previous permit also included the loadings associated with Phase II construction. Antidegradation was addressed before the issuance of the original permit.

**pH**

The limits for pH are based on protecting Michigan water quality standards (Rule 53). The daily maximum limit is set at 8 S.U. to ensure the discharge does not cause ammonia acute toxicity. Monitoring indicates the permittee is in substantial compliance with the limits.

**5-day Biochemical Oxygen Demand (BOD<sub>5</sub>)**

The limits in the previous permit are carried over to this permit as EPA believes they are still appropriate. For the previous permit, the limits were developed to be protective of Michigan’s dissolved oxygen standard. The current limits meet the wetland dissolved oxygen (D.O.) water quality standard of 4 milligrams per liter (mg/l) as a daily minimum in the receiving stream. Monitoring indicates the permittee is in substantial compliance with the limits. Percent removal is not included as the permit application identified no significant I/I and the effluent limits are more stringent than secondary treatment limits.

### **Total Suspended Solids (TSS)**

The limits in the previous permit are carried over to this permit as EPA believes they are still appropriate. For the previous permit, the limits were based on protecting the wetland. Monitoring indicates the permittee is in substantial compliance with the limits. Percent removal is not included as the permit application identified no significant I/I and the effluent limits are more stringent than secondary treatment limits.

### **Dissolve Oxygen (DO)**

The limit in the previous permit is carried over to this permit as we believe it is still appropriate. The limit was developed to protect Michigan's wetland dissolved oxygen water quality standard of 4 mg/L as a daily minimum where it is applicable. Monitoring indicates the permittee is in substantial compliance with the limit.

### **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 year round. Monitoring indicates the permittee is in substantial compliance with the limits.

### **Phosphorus**

The wetland and the Depas Creek watershed are not impaired due to nutrients at the point of discharge or at the reservation boundary. To protect the receiving stream against nuisance plant growth problems and ensure that Michigan's Water Quality Standards are met at the reservation boundary, the permit contains a monthly average limit for total phosphorus of 1.0 mg/l in accordance with Michigan's Water Quality Standards (R.323.1060). This permit also includes a weekly average load limit in accordance with 40 CFR 122.45(d). Because of the nutrient concerns in the Great Lakes Basin, dischargers have also been asked to decrease discharges of phosphorus, especially if expansion will occur. Therefore, the limit for total phosphorus, upon completion of Phase II, will be lowered to 0.5 mg/L, which is half of the existing limit. Performance data indicates that the existing facility cannot consistently comply with the new limit. The permittee will need to determine with the construction of Phase II if filtration or other type of treatment will be needed to meet this limit. In the mean time, the draft permit requires the permittee to develop and implement a Phosphorus Pollutant Minimization Program (PMP).

### **Ammonia (as N)**

The existing permit required monitoring for ammonia. We did an analysis to determine whether permit limits were needed in this permit. We considered the wetland to be a limited aquatic life community. Considering factors such as temperature, pH, water body classification, effluent discharge rates and available dilution, effluent limits were developed. It was determined based on the existing effluent data, the facility has a reasonable potential to cause or contribute to a violation of water quality standards where applicable. Therefore, the limits are included in the permit. Also, based on the existing effluent data, the facility can consistently achieve the limits. No compliance schedule is needed. Information related to the limit development can be found in the administrative record.

### **Mercury**

The final limit for total mercury is the Discharge Specific Level Currently Achievable (LCA) based on a multiple discharge variance from the Michigan water quality-based effluent limit of 1.3 ng/L. EPA approved this variance and the method to calculate the LCA.

A LCA limit of 5.0 ng/L is included for total mercury in the permit as a monthly average. The LCA limit is based on existing effluent conditions. In addition, the permit also requires a Mercury Minimization Program (MMP) to be developed and implemented. The MMP for is included in the draft permit to help identify possible sources of mercury in the system.

EPA believes the use of the LCA limit is appropriate in this permit as there are no federally approved water quality standards for mercury applicable at the point of discharge. Using the LCA limit at the point of discharge will ensure that Michigan's WQS are protected at the reservation boundary.

### **Additional Monitoring**

Additional monitoring Total Kjeldahl Nitrogen (TKN), Oil and Grease, Nitrate plus Nitrite Nitrogen and Total Dissolved Solids (TDS) is required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR § 122.21(j).

### **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 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 development and implementation of pollutant minimization programs for mercury and phosphorus.
- Additional monitoring as required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR 122.21(j).
- 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) if sludge is used or disposed within the Reservation. Part III was developed using the Part 503 Implementation Guidance for sludge and 40 CFR Parts 122, 501, and 503.
- The permittee submitted the following land application site that may be used during the permit term:

<b>Site Name</b>	<b>Size</b>	<b>Latitude</b>	<b>Longitude</b>
Site 1 - "400 Road Property"	14 acres	045° 46' 25.2" N	087° 25' 40.0" W
Site 2 - "400 Road Property"	28 acres	045° 46' 20.4" N	087° 25' 14.2" W

The permit only allows this site to be used. If additional sites are needed, the permit may be modified, with public notice, to include the additional sites. It is not expected additional sites will be needed, however, the permit requires notification both to EPA and locally if additional sites will be used. As new sites are identified, information on those sites will be available for inspection at the Regional Office.

**Significant Changes from the Previously Issued Permit**

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

1. Added 'Summary of Regular Reporting'.
2. Changed the daily maximum pH limit from 9 to 8 S.U.
3. 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.

4. Weekly average limits for phosphorus have been added to be consistent with 40 CFR § 122.45(d). Added quarterly influent monitoring for phosphorus.
5. Added monthly average and daily maximum limits for ammonia.
6. Added a monthly average mercury limit and associated monitoring.
7. The permit requires weekly observations of the outfall to look for unusual characteristics of the discharge.
8. Requirements related to Asset Management have been added (Part I.D.3).
9. Requires the development and implementation of a pollutant minimization program for mercury and phosphorus (Part I.D.4 and Part I.D.5).
10. The Industrial Waste Pretreatment Program language has been updated (Part I.D.6).
11. The 'Sludge Disposal Requirements' have been updated (Part I.D.7). In addition, the existing land application site has been removed and two new sites have been added.
12. The "Standard Conditions" have been revised (Part II).
13. The "Sewage Sludge Requirements" have been revised (Part III). In addition, the sewage sludge shall only be sampled once per permit term for PCBs.

The permit is based on an NPDES application dated March 3, 2014, the sludge application dated June 18, 2014 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.

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