STATEMENT OF BASIS

PERMITTEE:	Mandan, Hidatsa, and Arikara **(**MHA) Nation Public Works
FACILITY:	MHA Interpretive Center Wastewater Treatment Plant
MAILING ADDRESS:	404 Frontage Road New Town, ND 58763
PERMIT NUMBER:	ND-0031160
FACILITY LOCATION:	9386 Highway 23 New Town, ND 58763 McKenzie County, ND SW ¼ of NW ¼, S21, T152N, R93W, approximate latitude 47.973600^{o} N, longitude 102.595200^{o} W
FACILITY CONTACT:	Steven Schilke, Civil Engineer Phone: (701) 280-0500 Email: steve.schilke@obernel.com
RESPONSIBLE OFFICIAL:	Delphine Baker, Administrator, MHA Nation Phone: (701) 421-1077 Email: dbaker@mhanation.com
PERMIT TYPE:	Minor Municipal, Indian Country Wastewater Treatment Plant New Application

Background Information

This facility will be located within the boundaries of the MHA Nation, also known as the Three Affiliated Tribes (TAT) which is located on the Fort Berthold Indian Reservation and is thus in "Indian country" as defined at 18 U.S.C. 1151. The EPA has not approved the TAT to implement the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) program in Indian country. The EPA directly implements the CWA NPDES program on Indian country lands within the State of North Dakota.

This Permit will cover the discharges from the wastewater treatment plant serving the MHA Interpretive Center. The Interpretive Center will house 10 offices and a large display of museum and interactive kiosks of the culture of the great MHA nation. The building will have a 250 seat event room and a state of the art kitchen for preparing traditional meals for the public at certain events. The Interpretive Center will have a class room for cultural educational classes such as traditional food preparation, beadwork, hide tanning etc. In addition to the new building, the MHA Nation is building an Amphitheatre with outside seating for 350. The goal of the Amphitheatre is to hold special events such as plays and musicals that include the serving of traditional meals. They also

plan on renting the event room to outside vendors for meetings and other activities, along with catered meals. The interpretive Visitors Center will serve as a source of education, tribal history and cultural preservation. All wastewater generated from the Interpretive Center Building and Visitors Center will be treated by the proposed wastewater treatment plant. The Center and wastewater treatment plant is currently located in an area owned by the Army Corp of Engineers (trust land). The EPA verified this location in the Land Status Verifier web map and confirmed that it is within the boundaries of the reservation; and therefore, it is located in Indian country.

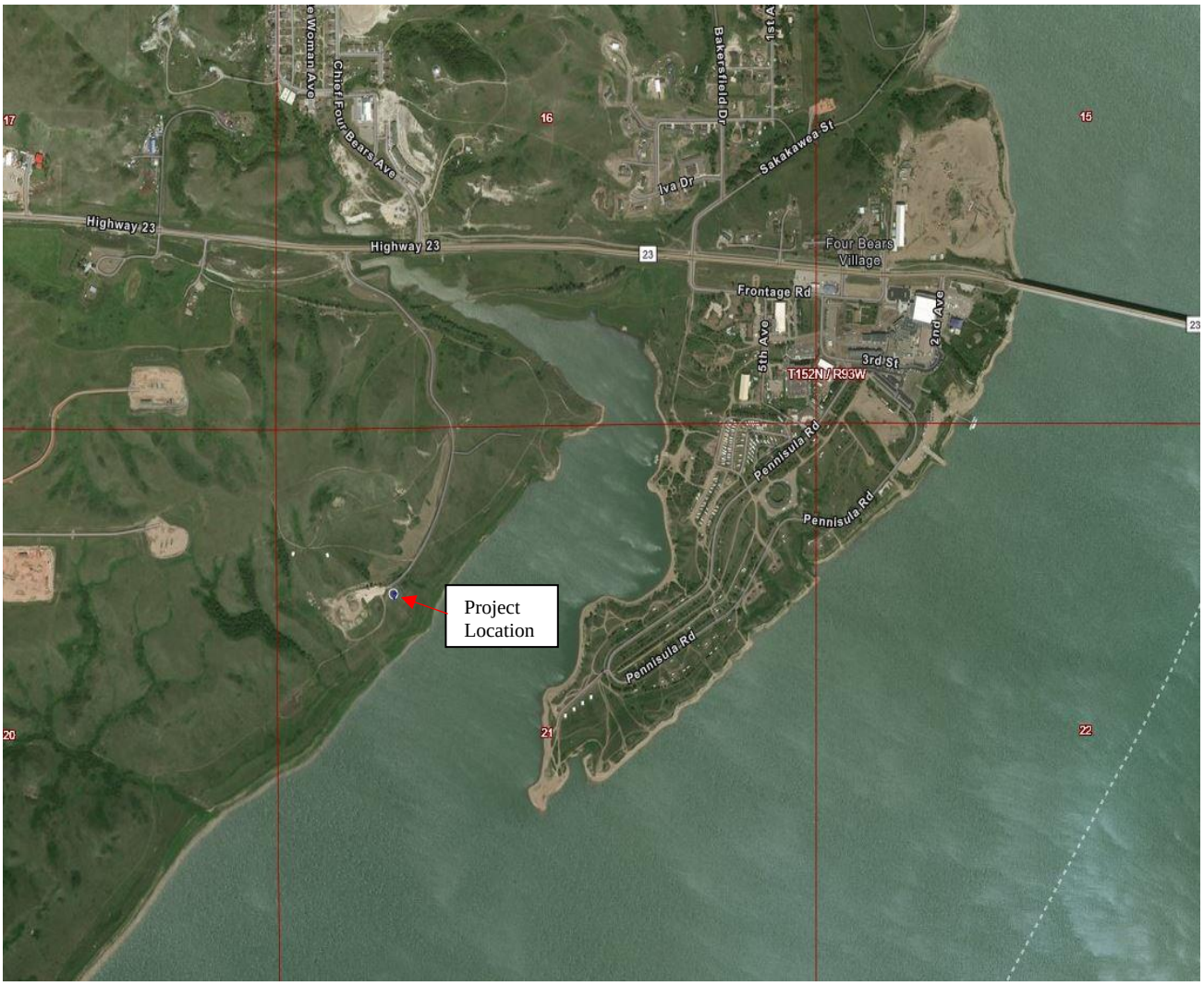
The proposed wastewater treatment plant will be located at 9368 Highway 23, New Town, North Dakota, about 4 miles west of the New Town community in the SW ¼ of NW ¼, Section 21, Township 152 North, Range 93 West, McKenzie County, North Dakota. The proposed outfall will be located approximately 0.1 miles east of the wastewater treatment plant at the bank of Missouri River (latitude 47.973600º N, longitude 102.595200º W). The treated effluent will be pumped from the facility and discharged via a pipe directly to the Missouri River (approximately 2 to 3 feet below the historic low water elevation).

The proposed wastewater treatment plant for this site is an alternate on-site treatment system providing sanitary service for the new Interpretive Center and Amphitheater that replaces the existing septic tanks serving the existing earth lodges. The wastewater treatment plant consists of three chamber septic tanks including equalization tanks (septic and peak discharge storage capacity tank), and a proprietary wastewater treatment system which includes a trickling filter and clarifier (ex. Bioclere Wastewater Treatment System as manufactured by Aquapoint) and a discharge force main line. The discharge will be disinfected by an Ultraviolet (UV) system.

The peak flow from the facility is estimated to be 43,750 gallons per day (GPD). The treatment system will be designed for an average flow of 17,500 GPD.

The project location map is shown below in Figure 1.

Figure 1. Project Location – MHA Interpretive Center Wastewater Treatment Plant



Receiving Waters

The discharge from the wastewater treatment plant goes directly to the Missouri River (approximately 2 to 3 feet below the historic low water elevation). The United States Geological Survey (USGS) gauge station 06330000 Missouri River near Williston, North Dakota is an upstream station to the wastewater treatment plant (about 60 miles northwest from the wastewater treatment plant). The lowest mean daily flow is about 10,000 cubic feet per second. The minimum dilution ratio for the discharge would be in excess of 1,000:1 with complete mix.

Water Quality Considerations

The CWA generally assumes aquatic life and primary contact recreation uses for all United States surface waters in the absence of a demonstration otherwise. The Missouri River, including Lake Sakakawea and Oahe Reservoir has been classified by the North Dakota Standards of Quality for Waters of the State, Chapters 33-16-02.1 for the following designated uses:

> "The quality of the waters shall be suitable for the propagation or protection, or both, of resident fish species and other aquatic biota and for swimming, boating, and other water recreation. The quality of the waters shall be suitable for irrigation, stock watering, and wildlife without injurious effects. After treatment consisting of coagulation, settling, filtration, and chlorination, or equivalent treatment processes, the water quality shall meet the bacteriological, physical, and chemical requirements of the department for municipal or domestic use."

The TAT developed Water Quality Requirements (WQR) that apply to waters within the exterior boundaries of the Fort Berthold Indian Reservation. These WQR were adopted into tribal code as Water Quality Rules and Regulations effective on May 11, 2000. However, TAT does not have treatment in the same manner as a state (TAS) under CWA § 518 to administer a water quality standards program and does not have federally approved WQS. The EPA considers the Tribes' WQR as informative as to the designated uses of the receiving water during the permit writing for the MHA Interpretive Center wastewater treatment plant. The Tribally-adopted WQR are intended to protect surface water designated uses through specific numeric and narrative water quality criteria and antidegradation provisions, and are therefore informative on the level of protection and use the Tribes intend for the Missouri River and lake. The TAT assigned the following designated uses for Lake Sakakawea: public water supply, primary contact recreation, cold water aquatic life, warm water aquatic life, agriculture, and navigation. Although the State of North Dakota water quality standards do not apply where the discharge occurs, the river and lake classification gives a good indication of existing and/or potential uses of this segment of the Missouri River. This permit is written to protect the aquatic life and primary contact recreation uses to meet CWA requirements.

Pollutants of Concern

For small discharges of sanitary wastewater such as this, the typical pollutants of water quality concern are pathogens, chlorine toxicity, possible ammonia toxicity, and nutrients. In this case, the main public health concern is the potential for people to be exposed to pathogens in the discharge. Thus, the EPA has included limits for *Escherichia coli* (*E. coli*) in the Permit. The main aquatic life

concern relates to ammonia toxicity and possible adverse effects from nutrients. Chlorine toxicity is not a concern because of the use of UV for disinfection. The EPA has included ammonia and nutrients monitoring requirements in this Permit. These monitoring results will provide information on ammonia concentrations and the amounts of nutrients being discharged, as well as help identify whether there is any significant loss of ammonia before the discharge reaches the Missouri River.

Effluent Limitations

Effluent Limitations - Outfall 001. Effective immediately and lasting through the life of this Permit, the quality of effluent discharged by the facility shall, at a minimum, meet the limitations as set forth below:

Effluent Characteristic	Effluent Limitation		
	30-Day Average a/	7-Day Average a/	Daily Maximum a/
BOD_5, mg/L b/	30	45	N/A
Total Suspended Solids, mg/L	30	45	N/A
E. coli, #/100 mL c/	126	N/A	410
The pH of the discharge shall not be less than 6.0 or greater than 9.0 in any single sample or analysis.			
The concentration of oil and grease in any single sample shall not exceed 10 mg/L nor shall there be any visible sheen in the receiving water or adjoining shoreline due to the discharge.			
There shall be no discharge of floating solids or visible foam in other than trace amounts.			

a/ See Definitions, Part 1.1, for definition of terms.

b/ Percentage Removal Requirements (TSS and BOD_5 Limitation): In addition to the concentration limits for total suspended solids and BOD_5 indicated above, the arithmetic mean of the concentration for effluent samples collected in a 30-day consecutive period shall not exceed 15 percent of the arithmetic mean of the concentration for influent samples collected at approximately the same times during the same period (85 percent removal).

c/ Per EPA's 2012 recommended *E. coli* criteria for primary contact recreation ("Recreational Water Quality Criteria", Office of Water 820-F-12-058), the 30-day Average is to be calculated using the 30-Day geometric mean. The 30-day geometric mean calculation will be based on the geometric mean from the total number of samples collected during the 30-day period. The Permittee may collect more samples than the monthly samples specified in the self-monitoring requirements. The maximum limitation in any sample will be 410 #/100 mL.

Basis for the Effluent Limitations

BOD_5, TSS, and pH

The limits for BOD_5, TSS, and pH are based on the National Secondary Treatment Standards (40 CFR Part 133).

E. coli
The *E. coli* limits are based on the 2012 update to the EPA's national recommended water quality criterion for primary contact recreation. The 30 day average geometric mean of *E. coli* limit is not to exceed 126 #/100 mL. The daily maximum limit is set at 410 #/100 mL.

Oil and Grease
The limit for oil and grease is based on the EPA Region 8 professional judgment (PJ) value.

Self-Monitoring Requirements

The self-monitoring requirements are given in Part 1.3.2 of the Permit as below.

Effluent Characteristic	Frequency b/	Sample Type a/
Total Flow, mgd b/	Daily	Instantaneous
BOD_5, mg/L	Weekly	Composite
Total Suspended Solids, mg/L	Weekly	Composite
E. coli, #/100 mL	Weekly	Grab
pH, units d/	Weekly	Grab or Instantaneous
Oil and grease, visual c/	Weekly	Visual
Total Ammonia as N, mg/L d/	Weekly	Grab
Temperature, °C d/	Weekly	Grab or Instantaneous
Total Nitrogen, mg/L e/	Monthly	Grab
Total Phosphorus, mg/L f/	Monthly	Grab

a/ See Definitions, Part 1.1, for definition of terms.

b/ Flow measurements with a flow measuring device (i.e. Parshall flume, weirs, etc.) of effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. The minimum, average and maximum flow rates (in gallons per day) during the reporting period shall be recorded in the daily log and reported.

c/ If a visible sheen is detected, a grab sample shall be taken immediately and analyzed in accordance with the requirements of 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

d/ Temperature and pH sampling shall be collected at the same time as sampling for the total ammonia.

e/ For the purposes of this Permit, the term "total nitrogen (TN)" is defined as total Kjeldahl nitrogen plus nitrate-nitrite (or the components to calculate total nitrogen) (as N).

f/ For purposes of this Permit "total phosphorus (TP)" may be determined by the analysis for total phosphorus or the analyses of the components to calculate total phosphorus.

The Permittee shall record all required monitoring data at the frequency described within the Permit into the daily log. The facility is required to install flow measuring equipment (i.e. Parshall flume, weirs, etc.) to measure the total volume of water discharged.

The packaged wastewater treatment plant utilizes trickling filter technology to treat the wastewater. Because of the additional treatment, the facility will most likely be able to meet the total ammonia as nitrogen water quality requirements. This is a new facility and there is no data for the total ammonia as nitrogen. This Permit requires sampling and analysis to have sufficient data to determine whether there is reasonable potential to set future limitation for total ammonia as nitrogen. The Permit writer will review future data to set a limitation if needed.

Monthly grab samples are to be collected and analyzed for total nitrogen and total phosphorus. The definitions are given in the Permit in footnotes e/ and f/ for Part 1.3.2. The EPA is giving increased emphasis to nutrients in the nation's streams. The monitoring requirements for total nitrogen and total phosphorus will provide information on the concentrations being discharged.

All discharge samples are to be collected after the flow measuring device and before it enters the discharge pipe to the Missouri River.

Reporting Requirements

With the effective date of this Permit, the Permittee must electronically report all monitoring data into the discharge monitoring reports (DMR) on a quarterly frequency using NetDMR. Electronic submissions by the Permittee must be sent to the EPA Region 8 no later than the 28th of the month following the completed reporting period. The Permittee must sign and certify all electronic submissions in accordance with the signatory requirements of the Permit. NetDMR is accessed from the internet at https://netdmr.zendesk.com/home.

In addition, the Permittee must submit a copy of the DMR to the TAT. Currently, the Permittee may submit a copy to the TAT by one of three ways: 1. a paper copy may be mailed. 2. The email address for TAT may be added to the electronic submittal through NetDMR, or 3. The Permittee may provide TAT viewing rights through NetDMR.

The DMRs are due quarterly and are due by the dates listed below and shall not be submitted until the reporting period is complete.

Compliance Monitoring Period	Due Date
January through March	April 28
April through June	July 28
July through September	October 28
October through December	January 28

Endangered Species Act (ESA) Requirements

Section 7(a) of the Endangered Species Act requires federal agencies to ensure that any actions authorized, funded, or carried out by an Agency are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species.

Federally listed recovery, threatened, endangered, and candidate species found in McKenzie County, North Dakota were based on the U.S. Fish and Wildlife Service (FWS) Information for Planning and Conservation (IPaC) system. These species are listed in the table below:

Species/Critical Habitat	Scientific Name	Status
Whooping Crane	*Grus americana*	Endangered
Piping Plover	*Charadrius Melodus*	Threatened
Least Tern	*Sterna antillarum*	Endangered
Red Knot	*Calidris canutus rufa*	Threatened
Gray Wolf	*Canis lupus*	Endangered
Pallid Sturgeon	*Scaphirhynchus albus*	Endangered
Dakota Skipper	*Hesperia dacotae*	Threatened
Northern Long-eared Bat	*Myotis septentrionalis*	Threatened

The supplemental environmental assessment for the MHA cultural interpretive center project prepared for the U.S. Army Corps of Engineers, Omaha District on April 2018 for this area indicated there is "No Effect" for Piping Plover, Red Knot, Pallid Sturgeon, Dakota Skipper, and Northern Long-eared Bat. The supplemental environmental assessment also indicated that U.S FWS determined this project would "have no significant impact" for Whooping Crane, Least Tern, and Gray Wolf and these species were not known to occupy the area in the 2005 environment assessment.

The EPA reviewed the supplemental environmental assessment report and concurs that this Permit has "No Effect" and would "have no significant impact" to the species listed by the U.S. FWS under the endangered species or critical habitats. The discharge from the wastewater treatment plant goes directly to the Missouri River (approximately 2 to 3 feet below the historic low water elevation). The permit limitations are protective of water quality and flows are not expected to be excessive.

National Historic Preservation Act (NHPA) Requirements

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The EPA has evaluated its planned issuance of the NPDES Permit for MHA Interpretive Center to assess this action's potential effects on any listed or eligible historic properties or cultural resources. This correspondence is typically conducted with the Tribal Historic Preservation Office (THPO). The EPA does not anticipate any impacts on listed/eligible historic properties or cultural resources because there is no listed historic site close to this facility.

During the public comment period, the EPA notified the THPOs of the MHA Nation of the planned issuance of this NPDES Permit and request their input on potential effects on historic properties and the EPA's preliminary determination in this regard. The EPA did not received input from the THPO.

Miscellaneous

This Permit will be reissued in approximately five years and the Permit effective date and expiration date will be determined at time of issuance.

Prepared by: Qian Zhang, P.E.,Wastewater Unit, 303-312-6267
March 16, 2018

Reviewed by: Wastewater Unit Staff
April 10, 2018

ADDENDUM:

This Permit and statement of basis were public noticed in the New Town News on June 15, 2018. The 30 day public comment period closed on July 16, 2018. There were no public comments received.