

North Dakota Department of Health Public Notice
Reissue of an NDPDES Permit

Public Notice Date: 4/23/2018

Public Notice Number: ND-2018-009

Purpose of Public Notice

The Department intends to reissue the following North Dakota Pollutant Discharge Elimination System (NDPDES) Discharge Permit under the authority of Section 61-28-04 of the North Dakota Century Code.

Permit Information

Application Date: 11/9/2017

Application Number: ND0023892

Applicant Name: Snake Creek Pumping Plant

Mailing Address: Bureau of Reclamation Dakota Area Office, Bismarck, ND 58502

Telephone Number: 701.221.1254

Proposed Permit Expiration Date: 6/30/2023

Facility Description

The reapplication is for a mechanical wastewater treatment plant which services the visitor's center and staff, and for the main sump drainage system that collects water leakage and seepage from facility walls, pumps, floor drains etc. The facility is located in the SE1/4 of Section 20, Township 148 North, Range 83 West. Any mechanical wastewater discharge would be to Lake Audubon, a Class 2 Lake. Any sump discharge would be to Lake Sakakawea, a Class 1 Lake.

Tentative Determinations

Proposed effluent limitations and other permit conditions have been made by the Department. They assure that State Water Quality Standards and applicable provisions of the FWPCA will be protected.

Information Requests and Public Comments

Copies of the application, draft permit, and related documents are available for review. Comments or requests should be directed to the ND Dept of Health, Div of Water Quality, 918 East Divide Ave, Bismarck ND 58501-1947 or by calling 701.328.5210.

All comments received by May 25, 2018 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice. If you require special facilities or assistance relating to a disability, call TDD at 1.800.366.6868.

**FACT SHEET FOR NDPDES PERMIT
ND-0023892**

SNAKE CREEK PUMPING PLANT

DATE OF THIS FACT SHEET – MARCH 2018

INTRODUCTION

The Federal Clean Water Act (CWA, 1972, and later amendments in 1977, 1981, and 1987, etc.) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES), which the US Environmental Protection Agency (EPA) has oversight authority. In 1975, the State of North Dakota was delegated primacy of the NPDES program by EPA. The North Dakota Department of Health (department) has been designated the state water pollution control agency for all purposes of the Federal Water Pollution Control Act, as amended [33 U.S.C. 1251, et seq.], and is hereby authorized to take all action necessary or appropriate to secure to this state the benefits of the act and similar federal acts. The department's authority and obligations for the wastewater discharge permit program is in the NDAC 33-16 (North Dakota Administrative Code) which was promulgated pursuant to NDCC chapter 61-28 (North Dakota Century Code). The department uses North Dakota Pollutant Discharge Elimination System (NDPDES) as its permitting title.

The following rules or regulations apply to NDPDES permits:

- Procedures the department follows for issuing NDPDES permits (NDAC chapter 33-16-01),
- Standards of Quality for Waters of the State (NDAC chapter 33-16-02.1).

These rules require any treatment facility operator to obtain an NDPDES permit before discharging wastewater to state waters. They also define the basis for limits on each discharge and for other requirements imposed by the permit.

According to the North Dakota Administrative Code (NDAC) section 33-16-01-08, the department must prepare a draft permit and accompanying fact sheet, and make it available for public review. The department must also publish an announcement (public notice) during a period of thirty days, informing the public where a draft permit may be obtained and where comments regarding the draft permit may be sent (NDAC chapter 33-16-01-07). For more information regarding preparing and submitting comments about the fact sheet and permit, please see **Appendix A – Public Involvement**. Following the public comment period, the department may make changes to the draft NDPDES permit. The department will summarize the responses to comments and any changes to the permit in **Appendix D – Response to Comments**.

TABLE OF CONTENTS

FACILITY DESCRIPTION 4

HISTORY..... 5

OUTFALL DESCRIPTION..... 5

SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT ISSUED 6

Past Discharge Data..... 6

PROPOSED PERMIT EFFLUENT LIMITATIONS..... 7

SELF-MONITORING REQUIREMENTS 11

TECHNOLOGY-BASED EFFLUENT LIMITS 12

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS..... 13

Numerical Criteria for the Protection of Aquatic Life and Recreation 13

Numerical Criteria for the Protection of Human Health 13

Narrative Criteria 14

Antidegradation..... 14

Mixing Zones 14

EVALUATION OF SURFACE WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA..... 14

BOD5..... 14

TSS..... 14

E. coli 15

HUMAN HEALTH..... 16

MONITORING REQUIREMENTS..... 17

TEST PROCEDURES 17

PERMIT ISSUANCE PROCEDURES..... 17

PERMIT ACTIONS 17

PROPOSED PERMIT ISSUANCE..... 17

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION 18

APPENDIX B – DEFINITIONS 20

DEFINITIONS Standard Permit BP 2013.12.31 20

APPENDIX C – DATA AND TECHNICAL CALCULATIONS 22

APPENDIX D – RESPONSE TO COMMENTS 23

BACKGROUND INFORMATION

Table 1 – General Facility Information

Applicant:	Bureau of Reclamation
Facility Name and Address:	Snake Creek Pumping Plant 1401 Hwy 83 NW Coleharbor, ND 58531 701-221-1254
Permit Number:	ND0023892
Permit Type:	Non POTW, Renewal
Type of Treatment:	Mechanical Wastewater Treatment Plant
SIC Code:	4952
Treatment Facility Description and Location:	The reapplication is for a mechanical wastewater treatment plant which services the visitor’s center and staff, and for the main sump drainage system that collects water leakage and seepage from facility walls, pumps, floor drains, etc. This facility is located in the SE ¼ of Section 20, Township 148 North, Range 83 West.
Receiving Stream:	001 to Lake Audubon, a Class 2 Lake 002 to Lake Sakakawea, a Class 1 Lake
Hydrologic Code:	10110101 – Lake Sakakawea

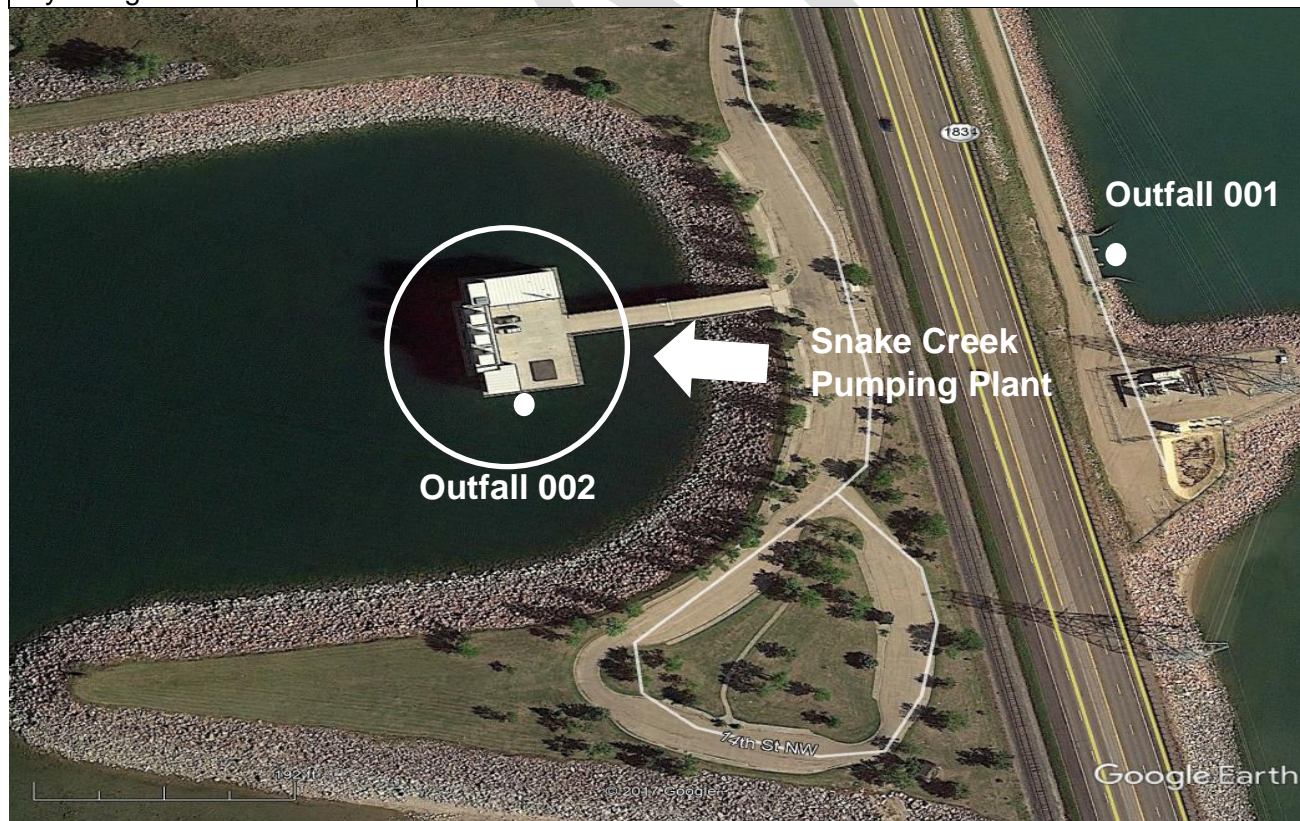


Figure 1 - Aerial Photograph of Snake Creek Pumping Plant - (Google Earth 8/1/2016)

FACILITY DESCRIPTION

The Snake Creek Pumping Plant (facility) is located near the west side of the north end of the Highway 83 bridge separating Lake Audubon and Lake Sakakawea 5.4 miles north of Cole Harbor, ND. The facility is operated by the United States Department of the Interior, Bureau of Reclamation. The facility consists of a visitor's center, a mechanical wastewater treatment plant which services the visitor's center and staff, a pumping system for regulating the water levels between the two lakes, and a sump pump system for the facility.

Waste Water Treatment Plant:

The facility maintains a sanitary mechanical wastewater treatment plant (WWTP), which services the visitor's center and facility staff. Only domestic wastewater is routed to the WWTP and was designed to accommodate over 400 people.

The WWTP is a Yeomans Brothers Company surface-aeration system. Sewage is treated by the extended aeration activated sludge process, with chlorination.

The plant operation and maintenance will vary because of large fluctuations in the hourly, daily, and seasonal sewage flows. The sewage treatment plant is designed to treat up to 3,000 gallons per day of sanitary sewage. Following are the anticipated sewage flows:

- Peak hour 500 gal
- Peak day (summer holidays) 3,000 gal
- Weekends during summer visitor season 2,500 gpd
- Weekdays during summer visitor season 2,000 gpd
- Remainder of the year 300 gpd

Most of the above flows would result from visitor use of the sanitary facilities. The estimated maximum sewage flow for the pumping plant from operations and maintenance is 300 gallons per day during periods of major maintenance. For normal pumping plant operation, the estimated sewage flow is 25 to 150 gallons per day.

Generally, the plant operator is the only occupant at the plant and visitors have been minimal. This low occupancy has resulted in loading to the sewage treatment plant to be under the design capacity.

The chlorination compartment has a volume of 690 gallons and would provide 80 minutes detention for the peak-hour designed flow. The chlorinator is an adjustable-rate hypochlorite solution feeder. Operation of the feeder to discharge chlorine to the chlorination compartment is automatic and controlled by the program time switches which regulates operation of the blowers for the sewage treatment plant. The feed rate is adjusted to provide the desired chlorine residual in the sewage effluent, as measured by the residual chlorine test.

Currently, the chlorine injected into the domestic water supply is maintained to carry a chlorine residual through the sewage treatment process. Additional chlorine injection to the sewage treatment chlorination compartment is used on an as needed basis.

Sump Pump System:

The plant drainage system conveys water from sources of leakage or discharge to the combined drainage and un-watering sump. Principal water sources which may discharge into this system include leakage through the pumping plant walls; leakage from pumps and pump man doors; and discharge from pump stuffing boxes, floor drains, surface water hose, fire line blow-offs, compressed air line blow offs, and the pressure filter backwash system.

The sump drainage and un-watering system consists of a sump, two 2500 gallon per minute (GPM) vertical pumps at 125-foot head, one jet pump, sump oil skimmer, control valving, and piping.

Sump Room 601 located below floor 6 and consists of two compartments; the oil skimmer and main compartment. All drainage and plant un-watering discharges enter into the oil skimmer compartment to prevent any oil spills from being pumped back into the fore bay. The oil skimmer compartment has an equalizing portal to the main sump located below the sump minimum water level, and water can be pumped from the main sump while oil remains trapped and floating on the surface in the oil skimmer compartment.

When the oil concentration has accumulated enough to require removal, a portable pump with a surface skimming suction hose is lowered through the access hatch to rest on the platform provided in the compartment. A temporary discharge connection must be made to the waste oil disposal piping and a connection made to the tank for disposal on the cover slab. Oil is not discharged to the lake. Accumulated oil shall be disposed of by a properly licensed disposal company.

Two vertical shaft turbine type, 150 horsepower 3-phase 460 Volt Alternating Current (VAC) pumps each having a capacity of 3,500 GPM at 129-foot head, provide drainage of the sump. The sump motors are located in the Sump Pump Room 308. The two sump pump discharge pipes are connected to an 18-inch discharge pipe which is then increased to a 20-inch discharge line that outlets through a 20-inch flap gate into Lake Sakakawea.

HISTORY

The facility first applied for a wastewater permit in 1976. During the previous permit, the department found that high levels of *E. coli* were being taken from the last holding tank of the mechanical treatment plant at Outfall 001. The facility began adding chlorine at the sampling point to reduce the *E. coli* level. This reduced the *E. coli* level and increased the level of the residual chlorine. The facility discussed solutions with the department and installed an inline chlorination system.

OUTFALL DESCRIPTION

Discharges at any location not authorized under a NDPDES permit is a violation of the Clean Water Act (CWA) and could subject the person(s) responsible for such discharge to penalties under section 309 of the CWA. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within the specified timeframe outlined in this permit could subject such person(s) to criminal penalties as provided under the CWA.

TABLE 2

Outfall 001. Active. Final.			
Latitude: 47.6120	Longitude: -101.2660	County: McLean	
Township: 148N	Range: 83W	Section: 28	QQ: CAA
Receiving Stream: Lake Audubon		Classification: Class 2 Lake	
Outfall Description: This is the outfall from the sanitary mechanical wastewater treatment plant.			

TABLE 3

Outfall 002. Active. Final.			
Latitude: 47.6115	Longitude: -101.2679	County: McLean	
Township: 148N	Range: 83W	Section: 28	QQ: CAA
Receiving Stream: Lake Sakakawea		Classification: Class I Lake	
Outfall Description: This is the outfall of the final sump water of leakage from the pumping plant walls, pipes, pump man doors and discharge from pump stuffing boxes, floor drains, service water hose, fire line blow offs, and the pressure filter backwash system.			

PERMIT STATUS

The department issued the previous permit for this facility on July 11, 2013. The previous permit issued limits on Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), pH, *E. coli*, Oil & Grease, and Residual Chlorine for Outfall 001 and limits on Total Suspended Solids (TSS), pH, and Oil & Grease for Outfall 002.

SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT ISSUED

The department assesses a facility's compliance based on a review of Discharge Monitoring Reports (DMRs) and physical inspections conducted by department staff. Department staff last conducted a non-sampling compliance inspection on November 13, 2017. Exceedances occurred at Outfall 001 (mechanical waste water treatment plant) in the effluent limitations for TSS, pH, *E.coli*, and Residual Chlorine. Exceedances are shown in Table 4.

Past Discharge Data

According to department records, this facility discharged at Outfall 001 for a total of 28 days during the period from July 1, 2013 to June 30, 2017 at an average rate of 1,441 gallons per day. The facility discharges the mechanical wastewater treatment plant (outfall 001) and the facility sump (outfall 002) once or twice every six months. The discharges may last for a few hours at a time. The concentration of pollutants in the discharges was reported on DMR forms. The effluent is characterized in Tables 4 and 5.

Table 4 – Snake Creek Pumping Plant Discharge Data (from 2013-2017) for Outfall 001

Parameter	Units	Range	Average	Permit Limit	Number of Exceedances	TRC Exceedance
BOD ₅	mg/l	<6-6	6	25	0	0

TSS – Effluent	mg/l	<5-48	10.28	30	2	2
pH	SU	8.17-9.21	N/A	6.0 to 9.0	1	N/A
<i>E. coli</i>	/100ml	0-2400	195	126	5	N/A
Residual Chlorine	mg/l	0.01-2.20	0.20	0.1	7	7
Ammonia as N	mg/l	0-1.7	0.35	N/A	N/A	N/A
Oil & Grease	mg/l	N/A	N/A	10	0	N/A
Oil & Grease Visual		0	0	N/A	N/A	N/A
Days		1-182	24	N/A	N/A	N/A
Drain	Gal/min	1441-24,497	7205	N/A	N/A	N/A
Flow	gal/day	48-4080	1563	N/A	N/A	N/A

Table 5 – Snake Creek Pumping Plant Discharge Data (from 2013-2017) for Outfall 002

Parameter	Units	Range	Average	Permit Limit	Number of Exceedances	TRC Exceedance
TSS – Effluent	mg/l	<5-12	6	30	0	0
pH	SU	7.98-8.59	N/A	7.0 to 9.0	0	0
Oil & Grease	mg/l	N/A	N/A	10	0	0
Oil & Grease Visual		0	0	N/A	N/A	N/A
Days		7-167	77	N/A	N/A	N/A
Drain	Mgal	0.02-4.00	1.25	N/A	N/A	N/A
Flow	gal/day	205-105,000	22,326	N/A	N/A	N/A

PROPOSED PERMIT EFFLUENT LIMITATIONS

The following limitations are based on promulgated guidelines as outlined in the Code of Federal Regulations (40 CFR), the North Dakota Administrative Code (NDAC), the North Dakota Standards of Quality for Waters of the State (WQS) and Best Professional Judgment (BPJ), as determined by the North Dakota Department of Health. The effluent limitations applied to Outfall 001 reflect secondary treatment standards outlined in 40 CFR Part 133.102 and NDAC 33-16-14(3)(1).

The proposed effluent limitations shall take effect once the renewed permit becomes effective. All parameter limitations are for Outfall 001 and Outfall 002. The effluent limitations and the basis for the limitations are provided in Tables 6 and 7 below:

Table 6 – Outfall 001 Effluent Limitation Basis

Effluent Parameter	30-Day Average	Daily Maximum	Basis ^a
BOD ₅ , mg/l	25	45	Previous Permit 40 CFR 133.102(a) NDAC 33-16-01-14(3)(c)(1)
TSS, mg/l	30	45	Previous Permit 40 CFR 133.102(b)
pH, SU	Shall remain between 7.0 to 9.0		WQS
E. coli (number/100mL)	126	409	WQS
Ammonia as N	Refer to the Ammonia Table (Table 5)		WQS
Residual Chlorine, mg/l	*	0.1	WQS
Oil & Grease, mg/l	*	10	BPJ
Oil & Grease Visual	0	*	WQS
There shall be no discharge of floating solids or visible foam in other than trace amounts, nor a discharge which causes a visible sheen in the receiving waters.			Previous Permit WQS
Notes:			
a. The basis of the effluent limitations is given below:			
b. “Previous Permit” refers to limitations in the previous permit. The NDPDES regulations 40 CFR part 122.44(1)(1) Reissued Permits require that when a permit is renewed or reissued, interim limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit was issued have materially and substantially changed since the previous permit was issued and would constitute cause for permit modification or revocation and reissuance under 40 CFR Part 122.62 .			
c. “WQS” refers to effluent limitations based on the State of North Dakota’s “Standards of Quality for Waters of the State”, NDAC Chapter 33-16-02.1.			
d. “BPJ” refers to best professional judgement.			

Table 7 – Outfall 002 Effluent Limitation Basis

Effluent Parameter	30-Day Average	Daily Maximum	Basis ^a
TSS, mg/l	30	45	Previous Permit BPJ
pH, SU	Shall remain between 7.0 to 9.0		WQS
Oil & Grease, mg/l	*	10	BPJ
Oil & Grease Visual	0	*	WQS
There shall be no discharge of floating solids or visible foam in other than trace amounts, nor a discharge which causes a visible sheen in the receiving waters.			Previous Permit WQS

Notes:

- a. The basis of the effluent limitations is given below:
- b. "Previous Permit" refers to limitations in the previous permit. The NDPDES regulations **40 CFR part 122.44(1)(1) Reissued Permits** require that when a permit is renewed or reissued, interim limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit was issued have materially and substantially changed since the previous permit was issued and would constitute cause for permit modification or revocation and reissuance under **40 CFR Part 122.62**.
- c. "WQS" refers to effluent limitations based on the State of North Dakota's "Standards of Quality for Waters of the State", NDAC Chapter 33-16-02.1.
- d. "BPJ" refers to best professional judgement.

Table 8: Ammonia Effluent Limitations – Outfall 001

<p>Chronic Standard (Average Monthly Limit)</p> <p>The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula; and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:</p> $\frac{(0.0577)}{(1+10^{7.688-pH})} + \frac{2.487}{1+10^{pH-7.688}} \bullet CV;$ <p>where CV = 2.85, when T ≤ 14°C; or CV = 1.45 * 10^{0.028*(25-T)}, when T > 14°C. Receiving stream pH is used for the calculation</p>
<p>Acute Standard (Daily Maximum Limit)</p> <p>The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:</p> $\frac{(0.411)}{(1+10^{7.204-pH})} + \frac{58.4}{1+10^{pH-7.204}}$ <p>where salmonids are absent; or</p> $\frac{(0.275)}{(1+10^{7.204-pH})} + \frac{39.0}{1+10^{pH-7.204}}$ <p>where salmonids are present.</p>
<p>Notes:</p> <p>For the above calculations, the permittee receives ten percent of stream flow for dilution (refer to Option 1 in Table 3) at the time of discharge based on the flow of the receiving stream. In-stream concentration will be calculated on the mass-balance basis using the following formula:</p> <p>In-stream concentration= (Q_u*C_u + Q_e*C_e)/(Q_u+ Q_e) where Q_u= 10% of the receiving stream flow parameter C_u = Receiving stream ammonia parameter Q_e = Effluent flow parameter C_e = Ammonia as N parameter</p> <p>Outfall discharge will be regulated accordingly to avoid exceeding the water quality standard for ammonia as N at any time during the discharge.</p>

4-Day Average Ammonia as N Limitation

The highest 4-day average concentration of total ammonia within a 30-day averaging period does not exceed the numerical value given by the following formula:

$$\frac{(0.0577)}{(1+10^{7.688 - \text{pH}})} + \frac{2.487}{1+10^{\text{pH} - 7.688}} \bullet \text{CV} \bullet 2.5;$$

where CV = 2.85, when T ≤ 14°C; or
 CV = 1.45 * 10^{0.028 * (25 - T)}, when T > 14°C.

Effluent pH and temperature (T) is used for the calculation

Daily Maximum Limitation

For acute toxicity, the one-hour average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:

$$\frac{0.411}{1 + 10^{7.204 - \text{pH}}} + \frac{58.4}{1 + 10^{\text{pH} - 7.204}}$$

where salmonids are absent

Effluent pH is used for the calculation

SELF-MONITORING REQUIREMENTS

All effluent shall be sampled at a point leaving Outfall 001 and Outfall 002 but prior to entering waters of the state.

Table 9 – Self-Monitoring Requirements

Outfall 001	Frequency	Sample Type ^a
BOD5, mg/l	Quarterly ^b	Grab
TSS, mg/l	Quarterly ^b	Grab
pH, SU	Quarterly ^b	Grab
Ammonia as N, mg/l	Quarterly ^b	Grab
E. coli #/100 ml	Conditional, Quarterly ^b	Grab
Residual Chlorine mg/l	Quarterly ^b	Grab
Oil & Grease, mg/l	Conditional, Daily ^c	Grab
Oil & Grease Visual	Daily ^c	Visual
Total Drain, Mgal	Quarterly ^b	Calculated

a. Refer to Appendix B for definitions

b. Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring. When the discharge continues more than seven (7) days,

an additional grab sample of the actual discharge shall be taken and analyzed on a weekly basis for the duration of the discharge.

- c. There shall be no floating oil or visible sheen present in discharge. If floating oil or a visible sheen is detected in the discharge, the department shall be contacted and a grab sample analyzed to ensure compliance with the concentration limitation.

Table 10– Self-Monitoring Requirements

Outfall 002		
TSS, mg/l	Quarterly ^b	Grab
pH, SU	Quarterly ^b	Grab
Oil & Grease, mg/l	Conditional, Daily ^c	Grab
Oil & Grease Visual	Daily ^c	Visual
Total Drain, Mgal	Quarterly ^b	Calculated
Notes:		
<ul style="list-style-type: none"> a. Refer to Appendix B for definitions b. Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring. When the discharge continues more than seven (7) days, an additional grab sample of the actual discharge shall be taken and analyzed on a weekly basis for the duration of the discharge. c.. There shall be no floating oil or visible sheen present in discharge. If floating oil or a visible sheen is detected in the discharge, the department shall be contacted and a grab sample analyzed to ensure compliance with the concentration limitation. 		

TECHNOLOGY-BASED EFFLUENT LIMITS

Federal and state regulations define technology-based effluent limits for municipal wastewater treatment plants. These effluent limits are given in 40 CFR 133 and in NDAC Chapter 33-16-01-30. These regulations are performance standards that constitute all known, available, and reasonable methods of prevention, control, and treatment for municipal wastewater.

NDAC Chapter 33-16-01-30 incorporates by reference 40 CFR 133 which list the following technology-based effluent limits for BOD₅, TSS, and pH:

Table 11 – Technology-based Limits

Parameter	30-Day Average	7-Day Average
BOD5	30 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l
pH	Remain between 7.0 to 9.0 SU	--
Percent Removal	85% BOD5 and TSS	--

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS

The North Dakota State Water Quality Standards (NDAC Chapter 33-16-02.1) are designed to protect existing water quality and preserve the beneficial uses of North Dakota's surface waters. Wastewater discharge permits must include conditions that ensure the discharge will meet the surface water quality standards. Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily load (TMDL) study. TMDLs result from a scientific study of the water body and are developed in order to reduce pollution from all sources. There is currently no TMDL for this section of Lake Audubon listed. Lake Sakakawea has a Methylmercury impairment and does not support the designated use of fish consumption. Snake Creek Pumping Plant has been determined to not be a contributor of Methylmercury and therefore no limitation or monitoring is proposed in the permit.

Lake Sakakawea is listed as a Class 1 lake in the Standards of Quality for Waters of the State (NDAC 33-16-02.1). The quality of the waters in this class shall be suitable for the propagation or protection, or both, of resident fish species and other aquatic biota and for swimming, boating, and other 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.

Lake Audubon is listed as a Class 2 lake in the Standards of Quality for Waters of the State (NDAC 33-16-02.1). The quality of waters in this class are capable of supporting natural reproduction and growth of cool water fishes (e.g. northern pike and walleye) and associated aquatic biota. These waters are also capable of supporting the growth and marginal survival of cold water species and associated biota.

Numerical Criteria for the Protection of Aquatic Life and Recreation

Numerical water quality criteria are listed in the water quality standards for surface waters (NDAC Chapter 33-16-02.1). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. The department uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numerical Criteria for the Protection of Human Health

The U.S. EPA has published numeric water quality criteria for the protection of human health that are applicable to dischargers. These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The Water Quality Standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Narrative Criteria

Narrative water quality criteria (NDAC Chapter 33-16-02.1-08) limit concentrations of pollutants from exceeding applicable standards of the receiving waters. The department adopted a narrative biological goal solely to provide an additional assessment method that can be used to identify impaired surface waters.

Antidegradation

The purpose of North Dakota's Antidegradation Policy (NDAC Chapter 33-16-02(Appendix IV)) is to:

- Provide all waters of the state one of three levels of antidegradation protection.
- Determine whether authorizing the proposed regulated activity is consistent with antidegradation requirements.

The department's fact sheet demonstrates that the existing and designated uses of the receiving water will be protected under the conditions of the proposed permit.

Mixing Zones

The department's WQS contain a Mixing Zone and Dilution Policy and Implementation Procedure, NDAC Chapter 33-16-02.1 (Appendix III). This policy addresses how mixing and dilution of point source discharges with receiving waters will be addressed in developing chemical-specific and whole effluent toxicity discharge limitations for point source discharges. Depending upon site-specific mixing patterns and environmental concerns, some pollutants/criteria may be allowed a mixing zone or dilution while others may not. In all cases, mixing zone and dilution allowances shall be limited, as necessary, to protect the integrity of the receiving water's ecosystem and designated uses.

EVALUATION OF SURFACE WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA

BOD5

Outfall 001: The department has reviewed the BOD data and the sampling frequency. No excursions occurred for this parameter. The department proposes to continue with a permit limit of 25 mg/l (30-day arithmetic average) and 45 mg/l (daily maximum). Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

TSS

Outfall 001: The department has reviewed the TSS data and the sampling frequency. Two permit limitation exceedances occurred for the TSS, both of which also exceeded the Technical Review Criteria (TRC) limit as calculated below. One exceedance was the Daily Maximum and the other was the 30-Day Average. The department proposes to continue with a permit limit of 30 mg/l (30-

day arithmetic average) and 45 mg/l (daily maximum). Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

$$\text{TRC } 1.4 * \text{TSS } 30 \text{ mg/l} = \text{TSS } 42 \text{ mg/l}$$

Outfall 002: The department has reviewed the TSS data and the sampling frequency. No excursion occurred for this parameter. The department proposes to continue with a permit limit of 30 mg/l (30-day arithmetic average) and 45 mg/l (daily maximum). Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

pH

Outfall 001: One excursion of the upper limit occurred on the pH level within the permit period. According to NDAC 33-16-02.1-09 Table 1, up to 10% of representative samples collected during any three-year period may exceed this range, provided that lethal conditions are avoided. Therefore, the WQS were adhered to.

Appendix II of NDAC 33-16-02.1 states that the parameter limitations designated for Class I streams shall apply to all classified lakes and reservoirs. Based on the revised limits, the department proposes to change the pH limit from 6.0 – 9.0 SU to “shall remain between 7.0 – 9.0 SU”. Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

Outfall 002: The department has reviewed the pH data and the sampling frequency. No excursion occurred for this parameter. The department proposes no change in limits of 7.0 and 9.0 SU. Sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

E. coli

Outfall 001: Based on the WQS, the department has determined that an *E. coli* limitation of 126 organisms per 100 mL as a monthly geometric mean and 409 organisms per 100 mL as a daily maximum is appropriate for this type of facility. The standard applies during the recreation season from May 1 to September 30. The limitation in the permit is meant to cover the period one month before and one month after the recreation season to protect the recreational usage of the lake. There was a total of 5 exceedances of the permit limitation for *E. coli* during the period from July 1, 2013 to June 30, 2017. The department proposes no change in limits therefore sampling shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

Residual Chlorine

Outfall 001: The department has reviewed the Residual Chlorine data and the sampling frequency. There was a total of 7 exceedances of the permit limitation for the Residual Chlorine during the period from July 1, 2013 to June 30, 2017, all of which also exceeded the TRC limitation as calculated below. The department proposes to continue with a permit limit of 0.1 mg/l and sampling

shall consist of one (1) sample to be taken and analyzed on a quarterly basis when a discharge is occurring.

TRC 1.2 * Residual Chlorine 0.1 mg/l = TSS 0.12 mg/l

Ammonia as Nitrogen

According to department records, this facility has discharged during the previous permit cycle. No permit limitation exceedance occurred. The department proposes to add a permit limit for this parameter based on NDAC 33-16-02.1.

The department considers the potential for contaminants (ammonia, metals, and organic chemicals) commonly associated with domestic waste facilities to compromise a water quality standard. The most prominent parameter of concern with domestic waste discharges and the treatment of other organic-type waste is ammonia. Ammonia is generated during the decay or the process of stabilizing organic materials that commonly occur during domestic wastewater treatment.

Ammonia presents both acute and chronic toxicity to aquatic life at variable levels depending on in stream conditions (pH, temperature, and ammonia). Federal regulations (40 CFR 122.44) require the department to place limits in NDPDES permits on toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria.

A numeric ammonia limit will not be established in the permit at this time; however, the permittee will have two (2) options to choose from to comply with the ammonia as N water quality standard.

The permittee will sample the ammonia as N from the holding tank cell to be discharged and comply with state water quality standard at the end-of-pipe – forgoing any receiving water dilution.

The department proposes that using the 4-day chronic standard over the 30-day average standard is appropriate for determining compliance when discharges occur for seven days or less. This facility usually discharges for less than seven days and is a controlled discharge. If a discharge lasts longer than seven days, then the 30-day chronic standard will apply.

HUMAN HEALTH

North Dakota's water quality standards include numeric human health-based criteria that the department must consider when writing NDPDES permits. These criteria were established in 1992 by the U.S. EPA in its National Toxics Rule (40 CFR 131.36). The National Toxics Rule allows states to use mixing zones to evaluate whether discharges comply with human health criteria. The department determined the applicant's discharge is unlikely to contain chemicals regulated to protect human health. The department will re-evaluate this discharge for impacts to human health at the next permit reissuance.

MONITORING REQUIREMENTS

The department requires monitoring, recording, and reporting (NDAC Chapter 33-16-01-(21 through 23) and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's limits.

The permittee shall collect one grab sample representative of the discharge every quarter that a discharge is occurring. If multiple samples are collected for a discharge, they shall be averaged for reporting. Internal monitoring for the facility's benefit or knowledge is not required to be included in the 30day average of the results and does not need to be reported.

Sample results shall be recorded. The results recorded for each quarter shall be averaged together for the 30-day average. All of the 30-day averages recorded in the reporting period shall be averaged together to provide the 30-day average to be included on the DMR. The largest of all samples taken within the reporting period shall be recorded as the daily maximum.

TEST PROCEDURES

The collection and transportation of all samples shall conform to EPA preservation techniques and holding times. All laboratory tests shall be performed by a North Dakota certified laboratory in conformance with test procedures pursuant to 40 CFR 136, unless other test procedures have been specified or approved by EPA as an alternate test procedure under 40 CFR 136.5. The method of determining the total amount of water discharged shall provide results within 10 percent of the actual amount.

PERMIT ISSUANCE PROCEDURES

PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, changes in sewage sludge practices, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

PROPOSED PERMIT ISSUANCE

This proposed permit meets all statutory requirements for the department to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the State of North Dakota. The department proposes to issue this permit for a term of five (5) years.

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

The department proposes to reissue a permit to **Snake Creek Pumping Plant – Cole Harbor, ND**. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and the department's reasons for requiring permit conditions.

The department will place a Public Notice of Draft on **April 23, 2018** in the **Bismarck Tribune** to inform the public and to invite comment on the proposed draft North Dakota Pollutant Discharge Elimination System permit and fact sheet.

The Notice –

- Indicates where copies of the draft Permit and Fact Sheet are available for public evaluation.
- Offers to provide assistance to accommodate special needs.
- Urges individuals to submit their comments before the end of the comment period.
- Informs the public that if there is significant interest, a public hearing will be scheduled.

You may obtain further information from the department by telephone, 701.328.5210, or by writing to the address listed below.

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501

The primary author of this permit and fact sheet is Bill Giuliani.

**North Dakota Department of Health Public Notice
Reissue of an NDPDES Permit**

Public Notice Date: 4/23/2018

Public Notice Number: ND-2018-009

Purpose of Public Notice

The Department intends to reissue the following North Dakota Pollutant Discharge Elimination System (NDPDES) Discharge Permit under the authority of Section 61-28-04 of the North Dakota Century Code.

Permit Information

Application Date: 11/9/2017

Application Number: ND0023892

Applicant Name: Snake Creek Pumping Plant

Mailing Address: Bureau of Reclamation Dakota Area Office, Bismarck, ND 58502

Telephone Number: 701.221.1254

Proposed Permit Expiration Date: 6/30/2023

Facility Description

The reapplication is for a mechanical wastewater treatment plant which services the visitor's center and staff, and for the main sump drainage system that collects water leakage and seepage from facility walls, pumps, floor drains etc. The facility is located in the SE1/4 of Section 20, Township 148 North, Range 83 West. Any mechanical wastewater discharge would be to Lake Audubon, a Class 2 Lake. Any sump discharge would be to Lake Sakakawea, a Class 1 Lake.

Tentative Determinations

Proposed effluent limitations and other permit conditions have been made by the Department. They assure that State Water Quality Standards and applicable provisions of the FWPCAA will be protected.

Information Requests and Public Comments

Copies of the application, draft permit, and related documents are available for review. Comments or requests should be directed to the ND Dept of Health, Div of Water Quality, 918 East Divide Ave, Bismarck ND 58501-1947 or by calling 701.328.5210.

All comments received by May 25, 2018 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice. If you require special facilities or assistance relating to a disability, call TDD at 1.800.366.6868.

APPENDIX B – DEFINITIONS

DEFINITIONS Standard Permit BP 2013.12.31

1. **“Act”** means the Clean Water Act.
2. **“Average monthly discharge limitation”** means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.
3. **“Average weekly discharge limitation”** means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
4. **“Best management practices”** (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
5. **“Bypass”** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **“Composite”** sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24 hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.
7. **“Daily discharge”** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
8. **“Department”** means the North Dakota Department of Environmental Quality, Division of Water Quality.
9. **“DMR”** means discharge monitoring report.
10. **“EPA”** means the United States Environmental Protection Agency.
11. **“Geometric mean”** means the n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

12. "**Grab**" for monitoring requirements, means a single "dip and take" sample collected at a representative point in the discharge stream.

13. "**Instantaneous**" for monitoring requirements, means a single reading, observation, or measurement. If more than one sample is taken during any calendar day, each result obtained shall be considered.

14. "**Maximum daily discharge limitation**" means the highest allowable "daily discharge."

15. "**Salmonid**" means of, belonging to, or characteristic of the family Salmonidae, which includes the salmon, trout, and whitefish.

16. "**Sanitary Sewer Overflows (SSO)**" means untreated or partially treated sewage overflows from a sanitary sewer collection system.

17. "**Severe property damage**" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

18. "**Total drain**" means the total volume of effluent discharged.

19. "**Upset**" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

APPENDIX C – DATA AND TECHNICAL CALCULATIONS

DFLOW

No critical low flow limitations were required to be calculated for this permit renewal.

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APPENDIX D – RESPONSE TO COMMENTS

Comments received during the public comment period will be addressed and placed here.

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Permit No: ND0023892
Effective Date: July 1, 2018
Expiration Date: June 30, 2023

AUTHORIZATION TO DISCHARGE UNDER THE
NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33-16-01 of the North Dakota Department of Health rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

United States Department of the Interior
Bureau of Reclamation

is authorized to discharge from the Snake Creek Pumping Plant Facility

to Lake Audubon and Lake Sakakawea

provided all the conditions of this permit are met.

This permit and the authorization to discharge shall expire at midnight,
June 30, 2023.

Signed this _____ day of _____, _____.

Karl H. Rockeman, P.E.
Director
Division of Water Quality

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TABLE OF CONTENTS

DEFINITIONS Standard Permit BP 2013.12.31	4
PERMIT SUBMITTALS SUMMARY	6
SPECIAL CONDITIONS.....	6
I. LIMITATIONS AND MONITORING REQUIREMENTS.....	7
A. Discharge Authorization	7
B. Effluent Limitations and Monitoring	7
II. MONITORING, RECORDING, AND REPORTING REQUIREMENTS BP 2017.08.21	12
A. Representative Sampling (Routine and Non-Routine Discharges).....	12
B. Test Procedures.....	12
C. Recording of Results.....	12
E. Reporting of Monitoring Results.....	13
F. Records Retention	13
III. COMPLIANCE RESPONSIBILITIES.....	14
A. Duty to Comply	14
B. Proper Operation and Maintenance.....	14
C. Planned Changes.....	14
D. Duty to Provide Information	14
E. Signatory Requirements.....	14
F. Twenty-four Hour Notice of Noncompliance Reporting	15
G. Bypass of Treatment Facilities.....	15
H. Upset Conditions	16
I. Duty to Mitigate.....	16
J. Removed Materials	16
K. Duty to Reapply.....	16
IV. GENERAL PROVISIONS	17
A. Inspection and Entry.....	17
B. Availability of Reports	17
C. Transfers	17
D. New Limitations or Prohibitions	17
E. Permit Actions.....	17
F. Need to Halt or Reduce Activity Not a Defense	17
G. State Laws	17
H. Oil and Hazardous Substance Liability	17
I. Property Rights.....	17
J. Severability.....	18

DEFINITIONS Standard Permit BP 2013.12.31

1. “**Act**” means the Clean Water Act.
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5. “**Bypass**” means the intentional diversion of waste streams from any portion of a treatment facility.
6. “**Composite**” sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24 hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.
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11. “**Geometric mean**” means the n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.
12. “**Grab**” for monitoring requirements, means a single "dip and take" sample collected at a representative point in the discharge stream.
13. “**Instantaneous**” for monitoring requirements, means a single reading, observation, or measurement. If more than one sample is taken during any calendar day, each result obtained shall be considered.
14. “**Maximum daily discharge limitation**” means the highest allowable “daily discharge.”
15. “**Salmonid**” means of, belonging to, or characteristic of the family Salmonidae, which includes the salmon, trout, and whitefish.

16. "**Sanitary Sewer Overflows (SSO)**" means untreated or partially treated sewage overflows from a sanitary sewer collection system.
17. "**Severe property damage**" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
18. "**Total drain**" means the total volume of effluent discharged.
19. "**Upset**" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

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OUTFALL DESCRIPTION

Outfall 001. Active. Final Outfall. Sanitary Mechanical Wastewater Treatment Plant.			
Latitude: 47.6120	Longitude: -101.2660	County: McLean	
Township: 148	Range: 83	Section: 28	QQ: CAA
Receiving Stream: Lake Audubon		Classification: II Lake	
Outfall Description: This is the outfall from the sanitary mechanical wastewater treatment plant.			

Outfall 002. Active. Final Outfall. Non-Process Final Sump Wastewater.			
Latitude: 47.6115	Longitude: -101.2679	County: McLean	
Township: 148	Range: 83	Section: 28	QQ: CAA
Receiving Stream: Lake Sakakawea		Classification: I Lake	
Outfall Description: This is the outfall of the final sump water of leakage from the pumping plant walls, pipes, pump man doors and discharge from pump stuffing boxes, floor drains, service water hose, fire line blow offs, compressed air line blow offs, and the pressure filter backwash system.			

PERMIT SUBMITTALS SUMMARY

Coverage Point	Submittal	Frequency	First Submittal Date
001A	Discharge Monitoring Report-Secondary Standards	1/6 months	01/31/2019
002A	Discharge Monitoring Report-Secondary Standards	1/6 months	01/31/2019
Application Renewal	NPDES Application Renewal	1/permit cycle	01/01/2023

SPECIAL CONDITIONS

No special conditions have been determined for this permit.

I. LIMITATIONS AND MONITORING REQUIREMENTS

A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfalls as specified to the following: **Lake Audubon a Class 2 lake and Lake Sakakawea a Class 1 lake.**

This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

B. Effluent Limitations and Monitoring

The permittee must limit and monitor all discharges as specified below:

Table 1: Effluent Limitations and Monitoring Requirements Outfall 001				
Parameter	Effluent Limitations		Monitoring Requirements	
	30 Day Average	Daily Maximum	Sample Frequency	Sample Type
Biochemical Oxygen Demand BOD5 mg/l	25 mg/l	45 mg/l	Quarterly	Grab
Total Suspended Solids (TSS) mg/l	30 mg/l	45 mg/l	Quarterly	Grab
pH ^a	Shall remain between 7.0 to 9.0 SU		Quarterly	Grab
<i>E.coli</i> ^b	126 #/100 ml	409 #/100 ml	Conditional/Quarterly	Grab
Ammonia as N (mg/l) ^c	Refer to Ammonia Table (Table 3)		Quarterly	Grab
Residual Chlorine, Total mg/l	*	0.1 mg/l	Quarterly	Grab
Oil and Grease visual ^d	*	Report Yes or No	Daily	Visual
Oil and Grease (mg/l) ^d	*	10 mg/l	Conditional/Daily	Grab
Days Discharging	*	Report Total	Quarterly	Calculated
Flow Effluent, GAL	Report Avg. Value	Report Max. Daily Value	Daily	Calculated
Total Drain, GAL	*	Report Total	Quarterly	Calculated
* . This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.				
a. The pH, an instantaneous limitation, shall be between 7.0 SU and 9.0 SU. Any single analysis and or measurement beyond this limitation shall be considered a violation of the conditions of this permit.				
b. This limitation shall be effective from April 1 through October 31. Averages for <i>E. coli</i> shall be determined based on geometric mean.				
c. Permittee collects ammonia as N and temperature samples from the holding tank cell to be discharged and complies with the ammonia as N limit at the end-of-pipe forgoing any receiving water dilution.				
d. There shall be no floating oil or visible sheen present in discharge. If floating oil or a visible sheen is detected in the discharge, the department shall be contacted and a grab sample analyzed to ensure compliance with the concentration limitation. Any single analysis and/or measurement beyond this limitation shall be considered a violation of the conditions of the permit.				

Stipulations:

The dates of discharge, frequency of analyses, total number of gallons discharged, discharge flow rates, and number of exceedances shall also be included on the Discharge Monitoring Reports (DMR).

The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce sheen on the surface of the receiving water.

The department may specify additional discharge conditions or restrictions at any time to maintain water quality standards.

Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to leaving the facility property or entering the receiving stream.

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Table 2: Effluent Limitations and Monitoring Requirements **Outfall 002**

Parameter	Effluent Limitations		Monitoring Requirements	
	30 Day Average	Daily Maximum	Sample Frequency	Sample Type
Total Suspended Solids (TSS) mg/l	30 mg/l	45 mg/l	Quarterly	Grab
pH ^a	Shall remain between 7.0 to 9.0 SU		Quarterly	Grab
Oil and Grease Visual ^b	*	Report Yes or No	Daily	Grab
Oil and Grease (mg/l) ^b	*	10 mg/l	Conditional/ Daily	Visual
Total Days Discharging	*	Report Total	Quarterly	Calculated
Flow Effluent, GAL	Report Avg. Value	Report Max. Daily Value	Daily	Calculated
Total Drain, GAL	*	Report Total	Quarterly	Calculated
* . This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.				
a. The pH, an instantaneous limitation, shall be between 7.0 SU and 9.0 SU. Any single analysis and or measurement beyond this limitation shall be considered a violation of the conditions of this permit.				
b. There shall be no floating oil or visible sheen present in discharge. If floating oil or a visible sheen is detected in the discharge, the department shall be contacted and a grab sample analyzed to ensure compliance with the concentration limitation. Any single analysis and/or measurement beyond this limitation shall be considered a violation of the conditions of the permit.				
Stipulations:				
The dates of discharge, frequency of analyses, total number of gallons discharged, discharge flow rates, and number of exceedances shall also be included on the Discharge Monitoring Reports (DMR).				
The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce sheen on the surface of the receiving water.				
The department may specify additional discharge conditions or restrictions at any time to maintain water quality standards.				
Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to leaving the facility property or entering the receiving stream.				

Table 3: Ammonia Effluent Limitations – Outfall 001

<p>Chronic Standard (Average Monthly Limit)</p> <p>The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula; and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:</p> $\frac{(0.0577)}{(1+10^{7.688-pH})} + \frac{2.487}{1+10^{pH-7.688}} \bullet CV;$ <p>where CV = 2.85, when T ≤ 14°C; or CV = 1.45 * 10^{0.028*(25-T)}, when T > 14°C. Receiving stream pH is used for the calculation</p>
<p>Acute Standard (Daily Maximum Limit)</p> <p>The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:</p> $\frac{(0.411)}{(1+10^{7.204-pH})} + \frac{58.4}{1+10^{pH-7.204}}$ <p>where salmonids are absent; or</p> $\frac{(0.275)}{(1+10^{7.204-pH})} + \frac{39.0}{1+10^{pH-7.204}}$ <p>where salmonids are present.</p>
<p>Notes:</p> <p>For the above calculations, the permittee receives ten percent of stream flow for dilution (refer to Option 1 in Table 3) at the time of discharge based on the flow of the receiving stream. In-stream concentration will be calculated on the mass-balance basis using the following formula:</p> <p>In-stream concentration= (Q_u*C_u + Q_e*C_e)/(Q_u+ Q_e) where Q_u = 10% of the receiving stream flow parameter C_u = Receiving stream ammonia parameter Q_e = Effluent flow parameter C_e = Ammonia as N parameter</p> <p>Outfall discharge will be regulated accordingly to avoid exceeding the water quality standard for ammonia as N at any time during the discharge.</p>

4-Day Average Ammonia as N Limitation

The highest 4-day average concentration of total ammonia within a 30-day averaging period does not exceed the numerical value given by the following formula:

$$\frac{0.0577}{1+10^{7.688 - \text{pH}}} + \frac{2.487}{1+10^{\text{pH} - 7.688}} \bullet \text{CV} \bullet 2.5;$$

$$\text{where CV} = 2.85, \text{ when } T \leq 14^{\circ}\text{C}; \text{ or} \\ \text{CV} = 1.45 * 10^{0.028 * (25 - T)}, \text{ when } T > 14^{\circ}\text{C}.$$

Effluent pH and temperature (T) is used for the calculation

Daily Maximum Limitation

For acute toxicity, the one-hour average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:

$$\frac{0.411}{1 + 10^{7.204 - \text{pH}}} + \frac{58.4}{1 + 10^{\text{pH} - 7.204}}$$

where salmonids are absent

Effluent pH is used for the calculation

II. MONITORING, RECORDING, AND REPORTING REQUIREMENTS BP 2017.08.21

A. Representative Sampling (Routine and Non-Routine Discharges)

All samples and measurements taken shall be representative of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters limited under **Part I Effluent Limitations and Monitoring** requirements of this permit that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with **B. Test Procedures**. The permittee must report all additional monitoring in accordance with **D. Additional Monitoring**.

B. Test Procedures

The collection and transportation of all samples shall conform with EPA preservation techniques and holding times found in 40 CFR 136. All laboratory tests shall be performed by a North Dakota certified laboratory in conformance with test procedures pursuant to 40 CFR 136, unless other test procedures have been specified in this permit or approved by EPA as an alternate test procedure under 40 CFR 136.5. The method of determining the total amount of water discharged shall provide results within 10 percent of the actual amount.

C. Recording of Results

Records of monitoring information shall include:

1. the date, exact place and time of sampling or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the name of the laboratory;
4. the date(s) and time(s) analyses were performed;
5. the name(s) of the individual(s) who performed the analyses;
6. the analytical techniques or methods used; and
7. the results of such analyses.

D. Additional Monitoring

If the discharge is monitored more frequently than this permit requires, all additional results, if in compliance with **B. Test Procedures**, shall be included in the summary on the Discharge Monitoring Report.

E. Reporting of Monitoring Results

1. Monitoring results shall be summarized and reported to the department using Discharge Monitoring Reports (DMRs). If no discharge occurs during a reporting period, "No Discharge" shall be reported. The permittee must submit DMRs electronically using the electronic information reporting system unless requirements in subsection 3 are met.
2. Prior to December 21, 2020, the permittee may elect to electronically submit the following compliance monitoring data and reports instead of mailing paper forms. Beginning December 21, 2020, the permittee must report the following using the electronic reporting system:
 - i. General permit reports [e.g., notices of intent (NOI); notices of termination (NOT); no exposure certifications (NOE)];
 - ii. Municipal separate storm sewer system program reports;
 - iii. Pretreatment program reports;
 - iv. Sewer overflow/bypass event reports; and
 - v. Clean Water Act 316(b) annual reports
3. The permittee may seek a waiver from electronic reporting. To obtain a waiver, the permittee must complete and submit an Application for Temporary Electronic Reporting Waiver form (SFN 60992) to the department. The department will have 120 days to approve or deny the waiver request. Once the waiver is approved, the permittee may submit paper versions of monitoring data and reports to the department.
 - i. One of the following criteria must be met in order to obtain a waiver. The department reserves the right to deny any waiver request, even if they meet one of the criteria below.
 1. No internet access,
 2. No computer access,
 3. Annual DMRs (upon approval of the department),
 4. Employee turnover (3-month periods only), or
 5. Short duration permits (upon approval of the department)

All reports must be postmarked by the last day of the month following the end of each reporting period. All original documents and reports required herein shall be signed and submitted to the department at the following address:

ND Department of Health
Division of Water Quality
918 East Divide Ave
Bismarck ND 58501-1947

F. Records Retention

All records and information (including calibration and maintenance) required by this permit shall be kept for at least three years or longer if requested by the department or EPA.

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

C. Planned Changes

The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

D. Duty to Provide Information

The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

E. Signatory Requirements

All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

The authorization is made in writing by a person described above and submitted to the department;
and

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

If an authorization under E. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the department prior to or together with any reports, information, or applications to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or

supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Twenty-Four Hour Notice of Noncompliance Reporting

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The following occurrences of noncompliance shall be included in the oral report to the department at 701.328.5210:
 1. Any lagoon cell overflow or any unanticipated bypass which exceeds any effluent limitation in the permit under G. Bypass of Treatment Facilities;
 2. Any upset which exceeds any effluent limitation in the permit under H. Upset Conditions; or
 3. Violation of any daily maximum effluent or instantaneous discharge limitation for any of the pollutants listed in the permit.
2. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and
 - d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

Reports shall be submitted to the address in Part II.E. Reporting of Monitoring Results. The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

All other instances of noncompliance shall be reported no later than at the time of the next Discharge Monitoring Report submittal. The report shall include the four items listed in this subsection.

G. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to any of the following provisions in this section.
2. Bypass exceeding limitations-notification requirements.
 1. Anticipated Bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of bypass.
 2. Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required under F. Twenty-Four Hour Notice of Noncompliance Reporting.
3. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action

against a permittee for bypass, unless:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- c. The permittee submitted notices as required under the 1. Anticipated Bypass subsection of this section.

The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three (3) conditions listed above.

H. Upset Conditions

An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred, and the permittee can identify its cause(s);
2. The permitted facility was, at the time being, properly operated;
3. The permittee submitted notice of the upset as required under F. Twenty-Four Hour Notice of Noncompliance Reporting and
4. The permittee complied with any remedial measures required under I. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

J. Removed Materials

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not be directly blended with or enter either the final plant discharge and/or waters of the state. The permit issuing authority shall be contacted prior to the disposal of any sewage sludges. At that time, concentration limitations and/or self-monitoring requirements may be established.

K. Duty to Reapply

Any request to have this permit renewed should be made six months prior to its expiration date.

IV. GENERAL PROVISIONS

A. Inspection and Entry

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the wastewater treatment facilities and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

B. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

C. Transfers

This permit is not transferable except upon the filing of a Statement of Acceptance by the new party and subsequent department approval. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the department of the possible change.

D. New Limitations or Prohibitions

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

E. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, changes in sewage sludge practices, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

F. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G. State Laws

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

H. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

J. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

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