

NPDES Inspection Report – Wastewater Treatment Facility

National Database Information	
Inspection Date: August 26-27, 2024	Inspection Type: CEI – Wastewater Treatment Facility
Entry/Exit Time: Opening Conference: 9:00 - 11:00 a.m. 8/26/2024 (MT) Site Review: 9:00 - 11:45 a.m. 8/27/2024 (CT)	NPDES ID Number: SD0020800
NAICS Code: 221320 (Sewage Treatment Facilities)	Inspection ID: 202408_SD0020800
Lead inspector and affiliation: Akash Johnson / U.S. EPA Region 8	
Inspector and affiliation: Stephanie Passarelli / U.S. EPA Region 8	

Facility Location Information	
Site/Facility Name & Location: Lower Brule Wastewater Treatment Facility Lower Brule Reservation, South Dakota Lat/Long: 44.075972, -99.6315	Email Report to: Mary Jane Gourneau, Director Lower Brule Sioux Tribe EPO 187 Oyate Circle Lower Brule, South Dakota 57548 mjgourneau@LBST-EPO.org

Contact Information	
	Name(s)/Title
Facility Contacts:	Mary Jane Gourneau / Director / Lower Brule Sioux Tribe EPO
	Kris LaRoche / Wastewater Operator / Lower Brule Sioux Tribe EPO
	Jarvis Skunk / Solid Waste Director, Assistant Wastewater Operator / Lower Brule Sioux Tribe EPO
	Sheldon Fletcher / CWA 319, GIS Coordinator / Lower Brule Sioux Tribe EPO
IHS Contacts:	Jason Petersen / Tribal Utility Consultant / IHS
Person/Company meeting definition of "Operator"	Lower Brule Sioux Tribe
Authorized Official(s)	Mary Jane Gourneau / Environmental Director / Lower Brule Sioux Tribe

Permit Information		
Is the permit on site and available? No, EPA provided following inspection	Lagoon Category: Non-Major: NPDES Individual Permit. Authorized to discharge according to the authorization coverage letter	Monitoring Frequency: Quarterly for effluent and influent monitoring. Monthly Receiving stream

Effective Date: 01/01/2022	Expiration Date: 12/31/2026	Is the Facility under a compliance schedule? No
Is correct contact information indicated on ICIS? Yes	Indicate correct contact information: N/A	
Receiving Water(s): Lake Sharpe on the Missouri River		
Regulatory Inspector's source of information: Facility representatives, facility records. IHS personnel, IHS records. Inspection observations. EPA records, ICIS, and ECHO		

Areas Evaluated During Inspection		
<u>Permit</u>	<u>Self-Monitoring Program</u>	Pretreatment
<u>Records</u>	Compliance Schedule	<u>Pollution Prevention</u>
<u>Facility Site Review</u>	Laboratory	<u>Stormwater</u>
<u>Effluent/Receiving Waters</u>	<u>Operations and Maintenance</u>	Combined Sewer Overflow
Flow Measurement	Sludge Handling/Disposal	Sanitary Sewer Overflow

Report Review and Signature		
Drafter Name	Draft Date	Contact Information
STEPHANIE PASSARELLI  Digitally signed by STEPHANIE PASSARELLI Date: 2024.11.08 15:59:35 -07'00'	10/30/2024	U.S. EPA Region 8 Denver, Colorado passarelli.stephanie@epa.gov (303) 312-6803
Reviewer Name	Draft Date	Contact Information
Akash Johnson	11/1/2024	U.S. EPA Region 8 Denver, Colorado johnson.akash@epa.gov (303) 312-6067
Management Reviewer Name/Signature/Date		Contact Information
EMILIO LLAMOZAS  Digitally signed by EMILIO LLAMOZAS Date: 2024.11.08 15:46:00 -07'00'		U.S. EPA Region 8 Denver, Colorado llamozas.emilio@epa.gov (303) 312-6407
Emilio Llamozas, NPDES and Wetlands Enforcement Section Supervisor		

Inspection Narrative and Site Description

1.0 Introduction

On Monday, August 26, 2024, and Tuesday, August 27, 2024, U.S. Environmental Protection Agency (EPA) inspectors Akash Johnson and Stephanie Passarelli (collectively, “we”), conducted a compliance evaluation inspection of the Lower Brule wastewater treatment facility (facility; WWTF) located in Lower Brule, Lyman County, South Dakota. The facility was operated by the Lower Brule Sioux Tribe (Tribe) Environmental Protection Office (EPO). Ownership of the facility or underlying lands was not evaluated during the inspection.

The purpose of the inspection was to evaluate compliance with the Clean Water Act (CWA) and the facility’s National Pollutant Discharge Elimination System (NPDES) permit. The EPA is responsible for implementing the NPDES program in Indian Country within the State of South Dakota. The inspection was coordinated with the EPA several weeks in advance. A letter notifying the Tribe of the EPA’s inspection presence on the Reservation was sent on August 5, 2024.

A virtual opening conference was held on Monday August 26, 2024. We presented our credentials, and explained the purpose of the inspection and discussed the design, operation, and Clean Water Act and NPDES compliance of multiple WWTFs operated by the Lower Brule Sioux Tribe, including the subject facility. We met with the EPO Director Mary Jane Gourneau, Lead Wastewater Operator Kris LaRoche, Solid Waste Director and Assistant Wastewater Operator Jarvis Skunk, and CWA Section 319 coordinator Sheldon Fletcher. We were also joined by Indian Health Service (IHS) representative Jason Petersen, Tribal Utility Consultant. Throughout the inspection, we noted our observations in a checklist. Photographs taken during the inspection are included in the attached photo log.

2.0 Lower Brule Sioux Tribe EPO Wastewater Operations

Some of the information in this section was provided by EPO representatives during the inspection and has not been independently verified by the EPA.

At the time of the inspection, the EPO operated three WWTFs, identified as “Lower Brule” (the subject facility), “West Brule North”, and “West Brule South”. Each of these WWTFs comprised a collection system and lagoon. Approximately 2 weeks prior to the inspection, the EPO hired Kris LaRoche as a full-time Lead Wastewater Operator. Prior to hiring this full-time wastewater position, the EPO did not maintain any dedicated wastewater staff; rather, wastewater operations had been conducted in a part-time capacity by EPO staff whose primary responsibilities pertained to solid waste management. During the inspection, Kris LaRoche indicated he was in the process of becoming familiar with wastewater operations and each of the WWTFs under his purview. Moving forward, the EPO expected there would still be occasional sharing of staffing resources between the solid waste and wastewater programs. None of the EPO staff members maintained a wastewater operator license or certification.

The EPO was managed and funded as part of the Tribal government. EPO representatives indicated most wastewater operating costs were paid for by the Tribe, with some purchases exceeding certain dollar amounts requiring solicitation of bids and approval by the Tribal Council. The EPO and the Tribe also worked with IHS, other federal agencies, and technical assistance providers on an ongoing basis to obtain funding and technical assistance related to wastewater projects.

Lower Brule customers, rates, and finances were briefly discussed during the opening conference. The EPO did not assess or collect any wastewater fees. EPO representatives indicated no residential wastewater fees were assessed on the Reservation. EPO representatives indicated some commercial wastewater fees may have been paid directly to the Tribe, but they were not familiar with how any commercial wastewater fees may have been derived, assessed, or collected.

EPO representatives indicated additional support for EPO wastewater operations was sometimes available from other Tribal programs, including a Tribally-owned construction company, Lower Brule Rural Water (Rural Water), and the Lower Brule Sioux Tribe Motor Pool. Rural Water operated the Lower Brule Rural Water System, which provided culinary water to several communities across the Reservation. Historically, Rural Water had operated the Lower Brule, West Brule North, and West Brule South WWTFs, but operation of these WWTFs had been turned over to the EPO at least several years prior to the inspection (exact timing not evaluated during the inspection) and Rural Water had little involvement with these WWTFs at the time of the inspection. The Lower Brule Sioux Tribe Motor Pool maintained and operated a pump truck and jetter which could be deployed for EPO wastewater operations upon request.

EPO representatives indicated they had spent the majority of the month preceding the inspection clearing overgrown vegetation from around the lagoons associated with the three WWTFs under their purview. EPO representatives indicated they had made significant progress clearing vegetation from around the lagoons but still intended to complete additional vegetation removal around several lagoons.

3.0 Facility Information

At the time of the inspection, permit coverage for the facility was effective under an EPA-issued NPDES individual permit (SD0020800) with authorization to discharge. It is noted the NPDES ID for the facility is incorrectly identified on the actual permit document as SD0200800, but it is correctly reflected as SD0020800 in the permit statement of basis and in EPA databases.

The facility comprised a collection system and lagoon. One lift station, operated by Rural Water, receives backwash and domestic wastewater from Rural Water's Water Treatment Plant and pumps into to the facility's collection system. During the inspection, EPO representatives indicated there are no other lift stations throughout the Lower Brule collection system. However, facility records reviewed after the inspection indicated there is also a lift station present on or near the Tribal Detention Center campus that pumps sewage into the collection system. The existence, operability, or parties responsible for the Detention Center lift station were not discussed during the inspection.

The facility lagoon is a three-cell lagoon system intended to operate in series running from the northwest to the southeast. According to EPO operators and various facility records, influent is intended to be directed solely into Cell 1. However, report titled "Facility Plan for the Wastewater System in the Lower Brule Community," prepared by SPN & Associates, August 2017 (2017 Facility Plan) indicates, around 2001, a bypass was installed in "Manhole 68" to allow for influent to be directed into Cell 2, if needed, but no method to stop flow into the bypass line to Cell 2 was installed, resulting in some influent continuing to flow into Cell 2 in parallel with Cell 1. During the inspection, we did not open "Manhole 68" to evaluate whether this partial bypass was still occurring. EPO representatives indicated non-residential facility users included a casino, IHS clinic, schools, and various community and office buildings. Additionally, EPO representatives indicated the facility accepts hauled septage approximately twice per year. The outfall is located at the southwest corner of Cell #3; there is no flow measuring device at the outfall. According to the 2022 permit application, the facility serves roughly 400 people in the Lower Brule community.

4.0 Inspection Narrative

On Monday, August 26, 2024, we conducted a virtual opening conference via Microsoft Teams with Mary Jane Gourneau, Kris LaRoche, Jarvis Skunk, Sheldon Fletcher, and Jason Petersen. We presented our credentials, explained the purpose of the inspection and discussed the design, operation, and Permit requirements at the WWTFs operated by the Lower Brule Sioux Tribe, including the subject facility.

On Tuesday, August 27, 2024, we met with Kris LaRoche, Mary Jane Gourneau, Jarvis Skunk, and Jason Petersen in-person at the EPO office in Lower Brule, South Dakota to continue the opening conference. In the office, we reviewed wastewater records, and evaluated monitoring equipment available on-site. Following our discussion, we conducted onsite observations at each of the WWTFs operated by the EPO, including the subject facility.

We arrived at Lower Brule WWTF at approximately 10:45 am, following the opening conference meeting at the EPO offices. The access gate was closed and locked, and warning signs were posted near the gate and in several other locations around the perimeter fence. The perimeter fence was in good condition.

We began the facility walk-through at the southern entrance of the facility between Cell 1 and Cell 2 and walked northwest for an overview of Cell 1 (Photograph 5). The berm tops and sides had recently been mowed resulting in clear path around the cell, with some vegetation still remaining on the inside walls of Cell 1. As EPO indicated, the team had removed considerable vegetation from surround the lagoon cells as evidence of numerous tree stumps and woody brush that remained (Photograph 6). In addition, along the southern side of Cell 1, there was evidence of animal burrows on top of the berm (Photograph 2) and an additional burrow in the same area identified on the outside berm wall (Photograph 3). There was no visible evidence of the burrow reaching the interior cell wall of the Cell 1.

Along the southern berm of Cell 1, an influent manhole (Photograph 4) was observed on an earthen protrusion into the cell. At the time of the inspection, EPO staff were not able to confirm whether this was an influent manhole; however, facility records reviewed after the inspection indicate this is one of two locations where influent could potentially enter Cell 1. Facility records indicate influent directed into Cell 1 could potentially enter the cell via the location shown in Photograph 4 or via a second influent pipe in the southwest corner of Cell 1 (see Figure 3.6.1-1 from the 2017 Facility Plan, below). We did not identify or observe any influent piping in the southwest corner of Cell 1 during the inspection.



Figure 3.6.1-1 “Layout of WWTF” from the 2017 Facility Plan

We walked back towards the facility entrance, and continued walk-through of the remaining Cell 2 and Cell 3 berms. Significant vegetation had also been removed from Cell 2 (Photograph 8), and Cell 3 (Photograph 9) as evidenced by tree stumps and recent cut brush along berm tops and cell sides. However, along the southeast and southwest sides of Cell 3, there remained excessive vegetation exceeding 6 inches in height and woody vegetation (small shrubs) present on the inside slopes and

tops of the berms. EPO indicated they were still in process of removing vegetation and would continue clearing the remaining cell sides and berm tops. During the inspection, we did not identify exact location of the outfall from Cell 3, however we did locate discharge valves in the berms around Cell 3 (Photograph 10). EPO operators were not certain of exact outfall location, or where outfall, or receiving stream monitoring would be conducted.

Since at least 2014, the Tribe has expressed concerns to various federal agencies regarding shoreline erosion around Lake Sharpe encroaching towards the lagoon. The Tribe and IHS have evaluated relocating the lagoons due to concerns with the lake/riverbank shoreline eroding and encroaching towards the lagoon. Around 2023, the U.S. Army Corps of Engineers completed construction of a breakwater structure along the Lake Sharpe shoreline adjacent the lagoon to mitigate shoreline erosion (Photograph 7). Discussions between the Tribe and IHS regarding lagoon improvements or relocation are ongoing, and the facility remains on the IHS Sanitary Deficiencies System list to potentially receive funds to relocate or upgrade the lagoon.

The inspection concluded when we left the lagoon at approximately 11:45 am.

On August 27, 2024, following our inspections of all the Lower Brule-operated WWTFs, we held a brief closing conference with Mary Jane Gourneau, Kris LaRoche, Jarvis Skunk and Jason Petersen where we discussed preliminary findings.

5.0 Post Inspection Activities and Conclusion

Also on August 27, 2024, the EPA sent an email to Mary Jane Gourneau and EPO representatives with the preliminary findings from the inspection, a copy of the Permit and Authorization Letter for the facilities, and several compliance, technical and financial assistance resources, resources for documenting inspections, and a lagoon troubleshooting guide. In addition, I conducted a cursory review of the EPA's ICIS database for monitoring data submitted by the EPO for this facility for the five years prior to this inspection.

Findings, requested corrective actions, and recommendations identified pursuant to the inspection are identified in the section below.

Findings, Corrective Actions and Recommendations

Finding #1: Permit and Authorization Letter were not available.

A copy of the facility's NPDES Permit and Authorization Letter for the Lower Brule WWTF were not maintained by the EPO.

Permit Requirement:

Section 6.8 of the Permit (Retention of Records) states, "The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit,

and records of all data used to complete the application for the Permit, for a period of at least three years from the date of the sample, measurement, report or application. Records of monitoring required by the Permit related to sludge use and disposal activities must be kept at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the EPA at any time. Data collected on site, data used to prepare the DMR, copies of DMRs, and a copy of this NPDES Permit must be maintained on site.”

Corrective Action:

Maintain a copy of the facility’s NPDES Permit and the Permit Authorization Letter in accordance with the Permit. In a response to the EPA, provide a narrative describing the individuals responsible for maintaining these records and the locations and formats in which these records will be maintained.

Finding #2: Excessive vegetation was present throughout the lagoon and animal burrows were observed in several locations.

Excessive vegetation exceeding 6 inches in height and woody vegetation (small shrubs) were present on the inside slopes and tops of the berms. Additionally, we observed animal burrows on the berms in several locations near Cell 1 (Photographs 2-3).

Permit Requirement:

Section 7.6 of the Permit states, “The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

In addition, Section 7.5.1 outlines inspection requirements to be conducted on at least weekly basis, including the following operation and maintenance items:

...

7.5.1.3. Determine if there are any animal burrows in the dike;

7.5.1.5. Determine if there are any rooted plants, including weeds growing in the water;

7.5.1.6. Determine if vegetation growth on the dikes needs mowing (i.e. no greater than 6” tall or any height that may interfere with monitoring, operation and maintenance of the system);

Section 7.5.4 states, “Problems identified during the inspection including, but not limited to, those associated with Section 7.5.1 of the Permit, shall be corrected at the time of inspection, if possible. If they cannot be corrected at the time of the inspection, the inspector must identify and document a corrective action to remedy the problem(s), as well as a timeline for completion of the remedy. The corrective action shall be completed by the time specified. Corrective actions to remedy problem(s) shall be in line with and addressed through proper operation and maintenance (Section 7.6 of the Permit). All problems identified during inspections, as well as associated corrective actions and timelines, shall be documented in the inspection log.”

Corrective Action:

Remove the overgrown vegetation from inside and around the berms and make repairs where animal burrows may have damaged or compromised the structural integrity of the berms in accordance with Section 7.5, 7.6 and relevant subparts of the Permit. In a response to the EPA, provide photographs of the lagoon enclosure indicating this corrective action has been completed and provide the date of completion.

Recommendation:

During the inspection, EPO representatives indicated they were considering applying herbicide to control vegetation on the interior of the lagoon berms. The EPO is advised CWA, NPDES, and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements may apply to the application of pesticides, including herbicides, which may enter waters of the United States. The EPO is also advised application of herbicide at the lagoon may constitute a substantial change in the volume or character of pollutants in wastewater both at the subject facility and at the Lower Brule South WWTF, requiring notification to the EPA under Section 7.1 of the Permit (Planned Changes). If the EPO intends to apply herbicide at the lagoon, prior to selecting or applying an herbicide, it is recommended the EPO contact the Region 8 Wastewater (NPDES Permitting) Section to inquire about potentially applicable Permit or other federal requirements relating to this activity. A relevant EPA contact would be Kenley Stone, reachable stone.kenley@epa.gov or (406) 457-5035. No response to the EPA is requested pursuant to this recommendation.

Finding #3: Weekly inspection reports were incomplete.

The facility representatives indicated routine inspections were conducted of the facilities, however, weekly facility inspection records did not contain all information required by the Permit.

Permit Requirements:

Section 7.5 (Inspection Requirements)

7.5.1 On at least a weekly basis, unless approved by the Permit issuing authority, the Permittee shall inspect its wastewater treatment facility, at a minimum, for the following:

- 7.5.1.1 Determine if a discharge is occurring, has occurred since the previous inspection, and/or if a discharge is likely to occur before the next inspection. (Note: If a discharge has occurred or is likely to occur before the next inspection, perform the appropriate monitoring and reporting requirements in sections 4 and 6.4 of this Permit if not already been completed.);
- 7.5.1.2 Determine if there is any leakage through the dikes;
- 7.5.1.3 Determine if there are any animal burrows in the dike;
- 7.5.1.4 Determine if there has been any erosion of the dikes (e.g., rills, cracks or other structural indications of erosion);
- 7.5.1.5 Determine if there are any rooted plants, including weeds growing in the water;

- 7.5.1.6 Determine if vegetation growth on the dikes needs mowing (i.e. no greater than 6" tall or any height that may interfere with monitoring, operation and maintenance of the system);
- 7.5.1.7 Determine if there are potential concerns with the "health" of the lagoon system (e.g., water is cloudy, water coloration concerns (e.g. red, black, grey, dark blue-green and cloudy), etc.);
- 7.5.1.8 Determine if there is a visible sheen, floating oil, floating solids and/or foam;
- 7.5.1.9 Determine if there is visible evidence of illicit septic dumping; and,
- 7.5.1.10 Determine if proper operation and maintenance procedures are being undertaken at the wastewater treatment facility.

7.5.2 The Permittee shall maintain a log in either paper or electronic format recording information obtained during inspection activities. At a minimum, the log shall include the following:

- 7.5.2.1 Date and time of the inspection;
- 7.5.2.2 Name of the inspector(s);
- 7.5.2.3 The facility's discharge status;
- 7.5.2.4 The flow rate of the discharge if occurring;
- 7.5.2.5 The condition or status of all aspects required to be inspected in section 7.5.1;
- 7.5.2.6 Identification of operational problems and/or maintenance problems;
- 7.5.2.7 Corrective actions, as appropriate, to remedy identified problems, the planned date for each corrective action, and the actual date each corrective action was taken; and
- 7.5.2.8 Other information, as appropriate.

7.5.3 The Permittee shall maintain weekly log in either paper or electronic format in accordance with proper record-keeping procedures and shall make the log available for inspection, upon request, by authorized representatives of the U.S. Environmental Protection Agency or the applicable Tribe.

7.5.4 Problems identified during the inspection including, but not limited to, those associated with Section 7.5.1 of the Permit, shall be corrected at the time of inspection, if possible. If they cannot be corrected at the time of the inspection, the inspector must identify and document a corrective action to remedy the problem(s), as well as a timeline for completion of the remedy. The corrective action shall be completed by the time specified. Corrective actions to remedy problem(s) shall be in line with and addressed through proper operation and maintenance (Section 7.6 of the Permit). All problems identified during inspections, as well as associated corrective actions and timelines, shall be documented in the inspection log.

Corrective Action:

Ensure weekly facility inspections and associated records are comprehensive of all information required by the Permit. In a response to the EPA, provide a record of at least one weekly facility inspection conducted since receipt of this report.

Finding #4: An Operation and Maintenance (O&M) Manual was not available for the facility.

Permit Requirement:

Section 7.6.1 (Operation and Management Plan) of the Permit states, "The Permittee shall do the following as part of the operation and maintenance program for the wastewater treatment facility:

- 7.5.2.4 The flow rate of the discharge if occurring;
- 7.6.1.1 Have a current O&M Manual(s) that describes the proper operational procedures and maintenance requirements of the wastewater treatment facility, as required by the previous permit, and make any necessary updates as soon as possible, but no later than six (6) months after the effective date of this Permit. Maintain and implement the O & M Manual(s);
- 7.6.1.2 Have the O & M Manual(s) readily available to the operator of the wastewater treatment facility and require that the operator become familiar with the manual(s) and any updates;
- 7.6.1.3 Have a schedule(s) for routine operation and maintenance activities at the wastewater treatment facility; and,
- 7.6.1.4 Require the operator to perform the routine operation and maintenance requirements in accordance with the schedule(s).

7.6.2 Operation and Maintenance Log

The Permittee shall maintain a daily log in either paper or electronic format containing a summary record of all operation and maintenance activities at the wastewater treatment facility. The Permittee shall maintain the daily log in accordance with proper record-keeping procedures in section 6.8 and shall make the log available for inspection, upon request, by authorized representatives of the EPA. At a minimum, the log shall include the following information:

- 7.6.2.1 Date and time;
- 7.6.2.2 Name and title of person(s) making the log entry;
- 7.6.2.3 Name of the persons(s) performing the activity;
- 7.6.2.4 A brief description of the activity; and,
- 7.6.2.5 Other information, as appropriate.

Corrective Action:

Develop and maintain an O&M Manual(s) for the facility in accordance with the Permit. In a response to the EPA, provide a copy of the O&M Manual(s) developed for the facility.

Finding #5: Operators were unfamiliar with field parameter (e.g. pH, temperature) measurement probe calibration procedures.

Finding #6: Calibration records for field parameter measurement probes were not available.

Finding #7: pH calibration solutions were not available.

Permit Requirements:

Section 4.1 of the Permit (Self-Monitoring and Reporting Requirements) states:

...Self-monitoring requirements shall be conducted effective immediately and lasting through the effective term of this Permit. Sampling and test procedures for pollutants listed in this section shall be in accordance with guidelines promulgated by the Administrator in 40 CFR Part 136, as required in 40 CFR § 122.41(j), ...

Section 6.8 of the Permit (Retention of Records) states:

The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the application for this Permit, for a period of at least three years from the date of the sample, measurement, report or application. Records of monitoring required by the Permit related to sludge use and disposal activities must be kept at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the EPA at any time. Data collected on site, data used to prepare the DMR, copies of DMRs, and a copy of this NPDES Permit must be maintained on site.

Section 7.6 of the Permit (Proper Operation and Maintenance) states:

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit.

Corrective Action:

Ensure EPO staff responsible for conducting field measurements are trained on how to utilize field parameter measurement probes, including calibration and recordkeeping procedures, and have access to necessary calibration solutions, as needed. In a response to the EPA, provide a narrative explaining how and when this corrective action was completed.

Finding #8: Operators were unfamiliar with the configuration and all components of the facility, including lift stations, influent location(s) and monitoring locations.

Permit Requirements:

Section 7.6 of the Permit (Proper Operation and Maintenance) states:

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this Permit.

Corrective Action 8a:

Evaluate the configuration of influent entering the lagoon. Locate and open the manholes identified as Manholes 67, 68, and 69 in Figure 3.6.1-1 of 2017 Facility Plan and determine the presence and configuration of flow in each location. Evaluate how the EPO would like flow to be directed through each location. In a response to the EPA, provide a narrative explaining the findings of this investigation, the EPO's evaluation of the desired configuration of influent entering the lagoon, and any changes the EPO has made or is considering making to influent flow configuration.

Corrective Action 8b:

Determine the locations where the receiving stream, influent, and effluent monitoring (including the outfall) will be conducted. In a response to the EPA, provide the locations (GPS coordinates) for each of these monitoring locations and provide a photograph of the outfall.

Corrective Action 8c:

Determine the location, status, and parties responsible for operating the Detention Center lift station. In a response to the EPA, provide a narrative including this information.

Finding #9: Improper calculation/reporting of percent removal for Total Suspended Solids (TSS). For the quarter ending 12/31/23, the facility reported a DMR value of 1 for TSS percent removal resulting in an effluent violation.

Permit Requirements:

Section 4.1 (Self-Monitoring Requirements – Outfall 001) of the Permit states:

Self-monitoring shall be conducted effective immediately and lasting through the effective term of this Permit. Sampling and test procedures for pollutants listed in this section shall be in accordance with guidelines promulgated by the Administrator in 40 CFR Part 136, as required in 40 CFR § 122.41(j). At a minimum, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report (DMR) that no discharge occurred. See Reporting of Monitoring Results, section 6.4, for more details.

Effluent monitoring samples shall be taken at Outfall 001, after all treatment processes but prior to discharge to the receiving water, Lake Sharpe on the Missouri River.

Table 3. Monitoring and Reporting Requirements for Outfall 001

Effluent Characteristic	Monitoring Frequency	Sample Type a/	DMR Coverage Period	Data Reported on DMR
Flow, mgd	b/	c/	Quarterly	Daily Max. 30-Day Avg.
<i>E.coli</i> , number/100 mL	b/	Grab	Quarterly	Daily Max. 30-Day Avg.
O&G, visual d/	b/	Visual	Quarterly	Narrative
O&G, m/L d/	Immediately if visual sheen detected b/	Grab	Quarterly	Daily Max.
Total Residual Chlorine (TRC), mg/L e/	b/	Grab	Quarterly	Daily Max. 30-Day Avg.
Total Ammonia Nitrogen (as N), mg/L	b/	Grab	Quarterly	Daily Max. 30-Day Avg.
Total Nitrogen f/	b/	Grab	Quarterly	Daily Max. 30-Day Avg.
Total Phosphorus (P), mg/L	b/	Grab	Quarterly	Daily Max. 30-Day Avg.
pH, units g/	b/	Grab	Quarterly	Instantaneous Min. Instantaneous Max.
BOD5, mg/L h/	b/	Grab	Quarterly	30-Day Avg. 7-Day Avg. 30-Day Avg. %removal
TSS, mg/L h/	b/	Grab	Quarterly	30-Day Avg. 7-Day Avg. 30-Day Avg. %removal

a/ See Permit Definitions, section 1, for definition of terms.

b/ A minimum of three (3) samples shall be taken during any discharge of wastewater. It is required that a sample be taken at the beginning, middle, and end of the discharge if the discharge is less than one week in duration. If a single, continuous discharge is greater than one week in duration, three (3) samples shall be taken during the first week and one (1) during each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages.

c/ Flow measurements of effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. The average flow rate in million gallons per day (mgd) during the reporting period and the maximum flow rate observed, in mgd, shall be reported. The date and time of the start and termination of each discharge shall be recorded and maintained in the facility's sampling records.

d/ If a visible sheen or floating oil is detected in the discharge, a grab sample shall be taken immediately, analyzed, and recorded in accordance with the requirements of 40 C.F.R. Part 136.

e/ The analysis for TRC shall be conducted using reliable devices (Equivalent to EPA Standard Methods 4500-Cl-G). The method achieves a method detection limit of less than 50 µg/L. In the calculation of average TRC concentrations, those analytical results that are less than the method detection limit shall be considered to be zero for calculation purposes. If all individual analytical results that would be used in the calculations are below the method detection limit, then "< 50 µg/L" shall be reported on the quarterly Discharge Monitoring Report (DMR). Otherwise, report the calculated value.

f/ At the time of the Permit development, there was no EPA approved analytical method for Total Nitrogen listed in 40 C.F.R. Part 136. For the purposes of the Permit, the term "Total Nitrogen (TN)" is defined as the calculated sum of analytical results from "Total Kjeldahl Nitrogen (TKN)" plus "Nitrate-Nitrite."

g/ Measurement must be analyzed within fifteen (15) minutes of sampling per 40 C.F.R. Part 136.

h/ *Percent removal is defined in 40 C.F.R. § 133.101(j)* as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period. Based on this definition, an example BOD percent removal calculation is provided below. On a quarterly DMR reporting basis, the average of all 30-day average effluent BOD values reported over the previous 6 months and the average of all 30-day average influent BOD values reported over the previous 6 months shall be used to calculate the BOD percent removal that will be reported for that quarterly DMR reporting period, if a discharge occurred within the quarterly reporting period. This will result in a rolling 6-month window of data used for quarterly calculations. Months where no sampling occurred should not be included in the calculation. If no discharge occurred within a quarterly reporting period, no percent removal calculation is necessary for that reporting period.

Example calculation for 1st Calendar Quarter DMR Reporting (January-March):

Average Effluent 30-day BOD for 6 months =

$$\frac{(\text{October effluent BOD 30day average} + \text{November effluent BOD 30day average} + \text{December effluent BOD 30day average} + \text{January effluent BOD 30day average} + \text{February effluent BOD 30day average} + \text{March effluent BOD 30day average})}{(\# \text{ of months for which effluent data was reported (e.g. "6" if there is data for all 6 months)})}$$

Average Influent 30-day BOD for 6 months =

$$\frac{(\text{October influent BOD 30day average} + \text{November influent BOD 30day average} + \text{December influent BOD 30day average} + \text{January influent BOD 30day average} + \text{February influent BOD 30day average} + \text{March influent BOD 30day average})}{(\# \text{ of months for which influent data was reported (e.g. "6" if there is data for all 6 months)})}$$

Quarterly DMR percent removal reported value =

$$\frac{(\text{Average Influent 30day BOD for 6 months} - \text{Average Effluent 30day BOD for 6 months})}{\text{Average Influent 30day BOD for 6 months}} \times 100$$

Corrective Action:

Review, recalculate, and re-report the data reported for TSS percent removal for the quarter ending on 12/31/23, if data is available. If no data is available, use NODI code D – Data Not Available and explain in the DMR comments why relevant data is not available (e.g. operator turnover, records lost, data never collected, etc.). For future, reporting of this parameter, please use the example provided to accurately calculate TSS percent removal.

Finding #10: Improper NODI code reported

For the quarter ending on 12/31/23, the NODI code Q – Not Quantifiable for E. Coli was reported. For this parameter, a number value should be reported regardless if value was below detection limit, or too high to measure.

Additionally, for the quarters ending 03/31/23 and 06/30/23 and 03/31/24, the NODI code “T – Environmental Conditions – Monitoring Not possible” was used for the receiving stream monitoring at R001. This NODI-T is appropriate to use when sampling conditions are unsafe or not possible due to extreme weather or freezing conditions. While it may be appropriate, Jan-Mar, verify if conditions existed through end of June.

Permit Requirements:

Section 4.1 (Self-Monitoring Requirements – Outfall 001) of the Permit states:

Self-monitoring shall be conducted effective immediately and lasting through the effective term of this Permit. Sampling and test procedures for pollutants listed in this section shall be in accordance with guidelines promulgated by the Administrator in 40 CFR Part 136, as required in 40 CFR § 122.41(j). At a minimum, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report (DMR) that no discharge occurred. See Reporting of Monitoring Results, section 6.4, for more details.

Effluent monitoring samples shall be taken at Outfall 001, after all treatment processes but prior to discharge to the receiving water, Lake Sharpe on the Missouri River.

Corrective Action:

Review E. Coli laboratory results for the quarter ending on 12/31/23 for Monitoring Point 001-A, and re-report results if data is available. If no data is available, use NODI code D – Data Not Available and explain in the DMR comments why relevant data is not available (e.g. operator turnover, records lost, data never collected, etc.).

Review and confirm, NODI-T is the appropriate code to report for R001 for the quarters ending on 03/31/23, 06/30/23 and 03/31/24. If a sample was not collected due to weather, or frozen conditions, NODI-T is appropriate to use. However, if conditions allowed, and no sample was collected, NODI code E – Failed to sample/Required Analysis Not Conducted, may be appropriate to record in DMRs in this situation.

Finding 11: Required influent sampling was not conducted.

For the quarter ending 09/30/23, influent sampling had not been conducted or reported as required by the Permit.

Permit Requirements:

Section 4.2 (Self-Monitoring Requirements – Influent (I001)) of the Permit states:

Influent monitoring will consist of a minimum of a single grab sample at least once per quarter, to be incorporated into calculations for reporting effluent BOD5 and TSS percent removal associated with discharges. Influent samples shall be taken at the location designated in Table 1 of the Permit.

Table 4. Baseline Influent Monitoring Requirements, Influent Monitoring Location, I001

Baseline Influent Monitoring Requirements, Influent Monitoring Location, I001	Frequency	Sample Type a/
Influent Characteristic		
Biochemical Oxygen Demand (BOD5), mg/L	b/	Composite
Total Suspended Solids (TSS), mg/L	b/	Composite

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

b/ BOD5 and TSS influent sampling will be required for each discharge event. . Additional samples may be taken at the Permittee’s discretion if a large amount of variability is anticipated in the influent within a quarter. Any additional sample results must be included in the 30-day average influent DMR reporting for the month in which the sampling is performed. See Section 6.6 of the permit for further details on the requirements for additional sampling. See footnote h/ in Table 3for additional information/example calculations. If only one sample is taken within a month, that result will be the 30-average for the month.

Corrective Action 1:

Ensure future influent monitoring and reporting are conducted in accordance with the Permit. In a response to the EPA, provide a narrative explaining how the EPO plans to implement these requirements, including individuals responsible for sample collection and field measurements, individuals responsible for NetDMR reporting, and the selected influent monitoring location.