NPDES Inspection Report – Wastewater Treatment Facility

National Database Information	
Inspection Date: May 16, 2023	Inspection Type: CEI – Wastewater Treatment Facility
Entry/Exit Time: 9:00 am / 11:20 am	NPDES ID Number: NDG589202
NAICS Code: 221320	Inspection ID: 202305_NDG589202
Lead inspector and affiliation: Brit Rustad / EPA Region 8	
Inspector and affiliation: Stephanie Meyers / EPA Region 8	

Facility Location Information (*Name/Location/ Mailing Address*)	
Site/Facility Name & Location: St. Michael Wastewater Treatment Lagoon SW1/4 SW1/4 S16 T152N R64W St. Michael, ND 58370	Email Report to: Alfred Thompson Jr. (b) (6) [redacted] Robert Thompson sltwr-dir@spiritlakenation.com

Contact Information	
	Name(s)/Title
Facility Contacts: *(indicate primary lead and present during inspection)*	Alfred Thompson Jr. / Facility Manager / Sioux Utilities / primary during the inspections
	Robert Thompson / Director of Water Resources / Sioux Utilities / present during opening and closing conferences
	Lynnia Bustos / Environmental Technician / Spirit Lake EPA/ present during inspections
	Tyler Timmons / Tribal Utility Consultant / IHS / present during the inspections
Person/Company meeting definition of "Operator"	Spirit Lake Sioux Tribe
Authorized Official(s) (Per NOI?)	Alfred Thompson Jr. / Facility Manager / Sioux Utilities / primary during the inspections

Permit Information		
Is the permit on site and available? Yes	Lagoon Category: No Discharge	Monitoring Frequency: N/A
Effective Date: 4/1/2022	Expiration Date: 3/31/2027	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): Wetland next to cells, eventually to Devils Lake		
Regulatory Inspector's source of information: Notice of Intent for the permit, facility representatives and facility observations.		

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

Report Review and Signature		
Drafter Name	Address/Phone Number	Date
BRIT RUSTAD Digitally signed by BRIT RUSTAD Date: 2023.07.06 12:14:03 -06'00' **Brit Rustad**	**U.S. EPA Region 8** **1595 Wynkoop Street** **8ENF-W-NW** **Denver, Colorado 80202** **303-312-6885**	**6/5/2023**
Reviewer Name	Address/Phone Number	Date
Stephanie Meyers	**U.S. EPA Region 8** **1595 Wynkoop Street** **8ENF-W-NW** **Denver, Colorado 80202** **303-312-6938**	**7/3/2023**
Supervisor Signature/Name	Address/Phone Number	Date
COLLEEN RATHBONE Digitally signed by COLLEEN RATHBONE Date: 2023.07.06 11:56:05 -06'00' **Colleen Rathbone**	**U.S. EPA Region 8** **1595 Wynkoop Street** **8ENF-W-NW** **Denver, Colorado 80202** **303-312-6133**	**7/6/2023**

Inspection Narrative and Site Description

The inspection was conducted at the St. Michaels wastewater treatment lagoon located in St. Michael, North Dakota to evaluate compliance with their National Pollutant Discharge Elimination System (NPDES) permit. The EPA is responsible for implementing the NPDES program in Indian Country within the State of North Dakota. The inspection was announced approximately one month prior to the inspection to coordinate logistics for the inspection. On May 16, 2023, U.S Environmental Protection Agency (EPA) inspectors Brit Rustad and Stephanie Meyers met with operator Alfred Thompson Jr. with Sioux Utilities, Robert Thompson with Water Resources, and Lynnia Bustos with the Spirit Lake EPA. The EPA inspectors presented their credentials and had an opening conference to explain the purpose of the inspection. The inspectors proceeded to review records on site, inspect the facility, and asked questions to the facility representatives to help the inspectors evaluate compliance with the facilities' permit. Throughout the inspection, the inspectors noted their observations in a checklist. Photographs taken during the inspection are included in the attached photo log.

The St. Michael Lagoon system serves the St. Michael community of roughly 450 people in the Spirit Lake Tribe Reservation. The facility is permitted as a no discharge facility, under the Lagoon General Permit (Permit) for the Spirit Lake Reservation. Any discharge from the facility is expected to be under emergency circumstances only. The current lagoon system was originally built in 2015, per the NOI. The average design flow to the facility is 0.0733 million gallons per day (MGD) and the peak design flow is 0.0916 MGD. The average design organic treatment capacity is 120 lbs BOD_5 per day and the peak design organic treatment capacity is 150 lbs BOD_5 per day. The facility does not accept hauled septic waste currently. Inspectors noted during the inspection three older cells within the community north of Bellile Street and Circle Drive that are out of service have never been properly decommissioned (photos 273-275). Facility representatives stated there are no current plans to decommission this lagoon system. There is also an old single cell located just north of 39th Street Northeast and a few blocks east of Mission Road that is out of service and facility representatives had stated they were unsure if sludge had been removed.

The WWTF receives only domestic wastewater from the St. Michael community. The facility has 2 lift stations, the North lift station, and the South lift station. Wastewater from the community flows into the North lift station, then is pumped to the South lift station, after which wastewater is flows via a force main to cell 1.

Inspectors first observed the old three-cell lagoon system that is no longer in service (photos 273-275).

The inspectors then observed the North lift station (photos 276-278) and then the South lift station (photos 279-280). The operators were keeping track of the lift station pump hours via the control panels (photos 278 & 280). Below are the coordinates for the North and South lift stations.

Lift Station Name	Latitude	Longitude
North Lift Station	47.986252º N	-98.869439º W
South Lift Station	47.978646º N	-98.863992º W

The inspectors then went to inspect the lagoon cells. The facility is a two-cell lagoon system followed by a constructed wetland. The table below has the operating volume for the two cells and the constructed wetland.

Cell ID	Area (acres)	Operating Volume (MG)
Cell 1	4.0	6.52
Cell 2	5.0	8.15
Wetland 1	3.0	1.955
Total	12.0	16.975

After wastewater flows into the South lift station, wastewater enters the lagoon system through cell 1 (photo 281) which then passes through the valve (photo 284) to cell 2 (photo 283). Wastewater can then pass through the gate valve (photo 287) into the constructed wetland via the perforated pipe (photo 286). The wetland then has an outfall at the SW corner which was closed.

The inspectors and facility representatives drove around the lagoon to evaluate berm integrity and the facility's discharge status. Vegetation had reached a height greater than six inches on the inside berm (riprap) of cell 1 and cell 2. There were also small trees growing on the inside berms of cells 1 and 2 (photo 282).

At the end of the day on May 16, 2023, the inspectors returned to the main office and held a closing conference with Alfred Thompson Jr., Robert Thompson, Lynnia Bustos and Tyler Timmons where preliminary findings were discussed. On May 30, 2023, the EPA sent an email to Alfred Thompson Jr. and Robert Thompson with the preliminary findings from the inspection.

Findings, Corrective Actions and Recommendations

Finding #1: Weekly lagoon inspections were not being conducted.
Weekly lagoon inspections were not being conducted. The inspectors provided the facility representatives with a lagoon inspection report template form that the facility representatives could use to document the weekly lagoon inspections.

Permit requirement:
Part 6.5.1 of the Permit states, "On at least a weekly basis, unless otherwise modified by written approval from EPA, the Permittee shall inspect its wastewater treatment facility. Permission for less frequent inspections must be requested in writing by the Permittee and may be granted on a case-by-case basis where appropriate (e.g. a lagoon located in a remote area where access is a problem during the winter and compliance issues are not present), at the discretion of EPA. The Permittee shall maintain a notebook/logbook recording all information obtained during the inspection using indelible ink pens (or inspection logs may be kept in electronic format in accordance with proper record-keeping procedures) and in sufficient detail so that decision logic may be traced back, once reviewed. At a minimum, the notebook/logbook shall include the following (see Appendix D of this Permit for an Example Lagoon Inspection Form):
6.5.1.1. Name of facility and permit number;
6.5.1.2. Date and time of the inspection;
6.5.1.3. Name of the inspector(s);
6.5.1.4. The facility's discharge status;
6.5.1.5. The flow rate of the discharge, if occurring;
6.5.1.6. 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 3 and 5.4 of this Permit if not already done.);
6.5.1.7. If there is any leakage through the dikes;
6.5.1.8. If there are any animal burrows in the dike;
6.5.1.9. If there is any erosion of the dikes (e.g., rills, cracks or other structural indications of erosion);
6.5.1.10. If there are any rooted plants, including weeds or trees growing in the water;
6.5.1.11. If the vegetative growth on the dikes need mowing (i.e. no greater than 6" tall or any height that may interfere with monitoring, operation and maintenance of the system);
6.5.1.12. Visual observation for visible sheen, floating oil, floating solids and foam;
6.5.1.13. Visual observation to check for evidence of illicit septic dumping;
6.5.1.14. List the date scheduled for operation and maintenance procedures to be undertaken at the wastewater treatment facility;
6.5.1.15. Identification of operational and/or maintenance problems, and a determination of whether proper operation and maintenance procedures are being undertaken at the frequency necessary to maintain working operations and the overall treatment and collection systems of the wastewater treatment lagoon system;
6.5.1.16. Recommendations, as appropriate, to remedy identified problems;
6.5.1.17. A brief description of any actions taken with regard to problems identified;
6.5.1.18. Overall visual observations to identify 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.); and

6.5.1.19. Other information, problems identified, or observations, as appropriate.
The Permittee shall maintain the notebook/logbook in accordance with required record-keeping items listed above and shall make the log available for inspection, upon request, by authorized representatives of the U.S. Environmental Protection Agency or the applicable Tribe(s) (see Appendix A for list of Tribes).
Problems identified during the inspection (including, but not limited to, those associated with this section 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 a corrective action to remedy the problem(s), as well as a timeline for completion of the remedy. Corrective actions to remedy problem(s) shall be in line with (and addressed through) proper operation and maintenance (Section 6.6 of this Permit.). All problems identified during inspections, as well as associated corrective actions and timelines, shall be documented in the inspection log."

Part 5.9 of the Permit 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:
Ensure that inspections are conducted on a weekly basis and documented in accordance with the Permit. Ensure that inspection reports are kept in accordance with the recordkeeping requirements of the Permit. Provide the EPA and IHS with a description of the corrective actions taken to address this finding.

Finding #2: There was vegetation and trees growing on the inside berms of cells 1 and 2.
Vegetation had reached greater than six inches in height on the inside berms of cells 1 and 2 that needed to be cut (photos 281, 283 & 284). There were also small trees growing on the inside berms of cells 1 and 2 that needed to be cut.

Permit requirement:
Part 6.6 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 this Permit.
In addition to the operation and maintenance items in the manual for the lagoon system, ALL Permittees shall do the following maintenance, at a minimum:
The Permittee shall maintain a log in either paper (e.g. bound notebook) or electronic format containing a summary record of any daily operation and maintenance activities at the wastewater treatment lagoon

facility and collection system, that is to be updated on each day operation and maintenance activities are performed. At a minimum, the log shall include the following information:
6.6.1.5. Date and time;
6.6.1.6. Name and title of person(s) making the log entry;
6.6.1.7. Name of the persons(s) performing the activity;
6.6.1.8. A brief description of any operations and maintenance activity performed on the wastewater treatment lagoon system;
6.6.1.9. The Permittee shall ensure that necessary action to promptly correct the problem of leakage through the dikes is taken and documented in the maintenance log;
6.6.1.10. The Permittee shall ensure that necessary action to promptly remove burrowing animals from the dikes is taken and documented in the maintenance log;
6.6.1.11. The Permittee shall ensure prompt repair of damage to dikes caused by burrowing animals and/or erosion and documentation of all actions in the maintenance log;
6.6.1.12. The Permittee shall ensure removal of rooted plants, including weeds and trees, from the water on a regular basis or as needed and documentation of all actions in the maintenance log; and
6.6.1.13. The Permittee shall ensure that the dikes are kept mowed on a regular basis during the growing season or as needed (i.e., vegetation not greater than 6" tall or any height that may interfere with monitoring, operation and maintenance of the system) and that documentation of all actions taken are recorded in the maintenance log.
6.6.1.14. Other information, as appropriate."

Corrective Action:
Remove the overgrown vegetation and trees growing on the inside berms of cells 1 and 2. Submit to the EPA and IHS photos of the cells after the vegetation and trees have been removed.

Finding #3: The old three cell lagoon and single cell lagoon are no longer in service and have not been decommissioned.
Facility representatives indicated that the old 3 cell lagoon system had not been used in years and that there were no plans to use it in the future. Facility representatives also indicated they were unsure of whether the single cell had been properly decommissioned. The sludge in the cells must be disposed of in accordance with federal and tribal regulations.

Regulatory Requirement:
Sludge or other pollutants removed in the course of water treatment shall be disposed of in a manner consistent with all applicable federal and tribal regulations (e.g., 40 CFR Part 257, 40 CFR Part 258, 40 CFR Part 503).

Corrective Action:
Dispose of the sludge in the lagoon cells that are no longer in service in accordance with all applicable federal and tribal regulations. Provide the EPA and IHS with photos and a description of the corrective actions taken to address this finding.

Finding #4: A portion of the fence was burned down in several locations.
Portions of the perimeter fence had been burned in several locations due to suspected arson.

Permit requirement:

Part 6.6 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 this Permit."

EPA Guidance:
EPA has developed guidance manuals on the proper operation and maintenance of lagoons. One of the guidance materials is called "Principles of Design and Operations of Wastewater Treatment Pond Systems for Plant Operators, Engineers, and Managers" (August 2011, EPA/600/R-11/088). https://www.epa.gov/sites/production/files/2014-09/documents/lagoon-pond-treatment-2011.pdf

This guidance manual indicates in section 9.5 "Safety around ponds" that:

"To discourage use of the ponds for recreation, the entire area should be fenced and warning signs displayed."

Corrective Action:
Repair damaged sections of perimeter fence to ensure that access is restricted to the treatment facility. Provide the EPA and IHS photos of the repaired fence.