

U.S. EPA Region 8 NPDES Inspection Report

National Database Information	
Inspection Date: September 20, 2022	Inspection Type: Compliance Evaluation Inspection
Entry / Exit Time: 08:00 AM / 12:35 PM	NPDES ID: SDG589608 (EPA Region 8 Lagoon General Permit SDG589###); previous NPDES ID SDG589619
Major / Non-Major Facility: Non-Major	Program Sector(s): Publicly-Owned Treatment Works (POTW)
NAICS Code: 221320 (Sewage Treatment Facilities)	Inspection ID: 202209_SDG589608
Lead inspector and affiliation: Akash Johnson / U.S. EPA Region 8	
Inspector and affiliation: Stephanie Meyers / U.S. EPA Region 8	

Facility Location Information	
Site/Facility Name & Location: Rosebud Community WWTF Rosebud (Todd County), South Dakota 57570 43.269897, -100.835003	Email Report to: Young Colombe Sewer Revenue Department Director Rosebud Sioux Tribe ycolombe@sicangu.com

Contact Information	
	Name(s)/Title
Facility Contacts	Young Colombe / Director / Sewer Revenue Department, Rosebud Sioux Tribe (present for opening conference only)
Indian Health Service Contacts	James Begeman / Tribal Utility Consultant / Indian Health Service (present)
	Erik Anderson / Senior Environmental Engineer / Indian Health Service (present)
	Chuck Mack / Environmental Health Officer / Indian Health Service (present)
Tribal Government Contacts	Ivan Crow Eagle / Environmental Director / Rosebud Sioux Tribe (not present)
Person/Company meeting definition of "Owner"	Rosebud Sioux Tribe
Person/Company meeting definition of "Operator"	Sewer Revenue Department, Rosebud Sioux Tribe

Responsible Official(s)	Young Colombe / Director / (present for opening conference only)
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Permit / Facility Information	
Permit on site and available: Yes	Permit Application Date: Received March 22, 2016
Effective Date: April 5, 2016	Expiration Date: December 31, 2020 (administratively continued at time of inspection)
Latitude: 43.269897	Longitude: -100.835003
Receiving Water(s): Unnamed tributary of Wigwam Creek	
Weather Conditions: Clear	
Inspector's source of information: Facility representatives and records, Indian Health Service representatives and records, EPA records and databases, and inspection observations	

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

Report Review and Signature		
Lead Inspector Name/Signature/Date	Draft Date	Contact Information
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Akash Johnson, NPDES and Wetlands Enforcement Section		
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Inspection Narrative and Facility Description

1.0 Introduction

On Tuesday, September 20, 2022, I, U.S. Environmental Protection Agency (EPA) inspector Akash Johnson, accompanied by EPA inspector Stephanie Meyers (collectively, “we”), conducted a compliance evaluation inspection of the Rosebud Community wastewater treatment facility (WWTF; facility), located in Todd County, South Dakota, on the Rosebud Reservation (Reservation). We were accompanied by Indian Health Service (IHS) representatives James Begeman, Erik Anderson, and Chuck Mack for the entirety of the inspection, and Rosebud Sioux Tribe Sewer Revenue Department representative Young Colombe for the opening conference portion of the inspection. The inspection was coordinated with the Sewer Revenue Department and Rosebud Sioux Tribe Environmental Protection Office several weeks in advance, and an inspection notification letter was sent to the Rosebud Sioux Tribe on August 30, 2022. The purpose of the inspection was to evaluate compliance with applicable National Pollutant Discharge Elimination System (NPDES) and Clean Water Act requirements. Throughout the inspection, we took notes on our discussions and observations in bound checklists. Photographs taken during the inspection are included in the attached photo log.

2.0 Background

At the time of the inspection, the facility was authorized to discharge in accordance with the conditions of the 2016-2020 EPA Region 8 Lagoon General Permit SDG589#### (Permit; 2016 LGP). The Permit expired on December 31, 2020, but Permit coverage for the facility was administratively continued by the EPA and remains in effect as of drafting this report. The facility was assigned facility-specific NPDES ID SDG589608 with semi-annual reporting requirements identified in Subcategory C in Part 3.2.1.2 of the 2016 LGP. As of drafting this report, the EPA is in receipt of a Notice of Intent (NOI) from the Sewer Revenue Department requesting coverage for the facility under the 2022-2027 LGP (2022 LGP), but the EPA has not yet issued such coverage.

Based on my review of EPA records, prior to the subject inspection, the most recent EPA NPDES inspection of the facility occurred on September 15, 2015 (Inspection ID: 201509_SDG589619).

On October 13, 2016, the Sewer Revenue Department voluntarily entered into an Administrative Order on Consent (AOC) with the EPA (Docket No. CWA-08-2017-0002) (2016 AOC) to address alleged violations of various administrative and operational requirements of NPDES permits for multiple WWTFs operated by the Sewer Revenue Department, including the subject facility.

On July 31, 2018, the Sewer Revenue Department voluntarily entered into an Administrative Order on Consent (AOC) with the EPA (Docket No. CWA-08-2018-0012) (2018 AOC) to address sanitary sewer overflows (SSOs) from a lift station in the facility’s collection system (the Lower Lift Station, discussed further in Section 3.0), resulting in unauthorized discharges of raw sewage into Rosebud Creek. The subject unauthorized discharges occurred in April 2017, June 2017, and July 2017. The April 2017 and June 2017 SSOs were due to inoperable lift station pumps and the July 2017 SSO was due to a ruptured force main in the vicinity of the lift station. The EPA Region 8 Response Unit was deployed to assist in resolving the April 2017 SSO.

On May 15, 2019, the EPA issued a closure letter for the 2018 AOC. As of drafting this report, I have not been able to determine whether a closure letter was issued for the 2016 AOC, although its status was identified as “Closed” on the EPA Administrative Enforcement Docket webpage (<https://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf>, accessed December 2, 2022). It is noted the EPA may not issue closure letters for AOCs in all instances.

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In April 2021, H&S Environmental, LLC. (H&S) conducted a performance evaluation of the facility, funded in-part by the EPA. Activities and recommendations relating to this evaluation are summarized in a May 14, 2021 *Performance Evaluation Report*, prepared by H&S.

In September 2021, PG Environmental (PG), under contract to the EPA, conducted a technical assistance visit at the facility. Activities relating to this visit are summarized in an October 1, 2021 email from PG to several EPA representatives.

Records pertaining to the aforementioned activities are maintained in EPA files. Engineering records pertaining to the facility are primarily maintained by the IHS and the Sewer Revenue Department.

3.0 Inspection Narrative and Facility Description

The inspection began when we arrived at the Rosebud Sioux Tribe Water Resources building at approximately 08:00 AM. We convened with Young, James, Erik, and Chuck in a conference room, presented our inspector credentials, and conducted an opening conference. During the opening conference, we asked questions pertaining to the design, operation, and CWA and NPDES compliance of multiple wastewater treatment facilities operated by the Sewer Revenue Department, including the subject facility.

At the time of the inspection, the Sewer Revenue Department maintained two full-time operators on staff, dedicated solely to wastewater operations across approximately fourteen communities served. Routine operator tasks and schedules, such as daily rounds, were not regularly documented, but non-routine tasks, such as responding to backups, were assigned and tracked through an electronic work order management system. Young and IHS representatives indicated the tracking of non-routine tasks through the work order management system had helped identify recurring problems and areas where infrastructure improvements could be beneficial, which had resulted in some wastewater infrastructure improvement projects being completed through the IHS's Sanitary Deficiencies System (SDS).

Sewer Revenue Department finances were briefly discussed during the opening conference, but no financial records were reviewed. Young stated the following: approximately 1,100 Tribal Housing Authority residences were served across the Reservation; the Housing Authority had historically paid the Sewer Revenue Department \$15 per month per Housing Authority residence served; the arrangement had ceased several years prior to the inspection; a resolution had more recently been passed enabling the Sewer Revenue Department to resume charging the Housing Authority for services; no revenue had been collected since passing of the resolution. Commercial billing and other potential sources of revenue were not discussed at-length during the inspection. Young stated funding received through the Coronavirus Aid, Relief, and Economic Security (aka CARES) Act and American Rescue Plan Act (aka ARPA) was supporting some Sewer Revenue Department operations at the time of the inspection. Young managed both the Rosebud Sioux Tribe Rural Water System, also known as Sicangu Mni Wiconi, and Sewer Revenue Department operations, and indicated Sewer Revenue Department finances and other resources, such as vehicles, personnel, etc., were managed separately from Rural Water System resources. Young estimated approximately 90% of his time was spent on water operations, with approximately 10% of his time spent on wastewater operations.

According to information shared during the opening conference and included in the 2022 NOI, the facility served an estimated population of 2,055, with over 90% of wastewater originating from approximately 411 residences in the service area. Non-domestic operations in the service area included, but were not limited to, a hospital, dental facilities, a dialysis center, grocery and convenience stores,

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gas stations, schools, and Tribal and federal government offices. According to information in the 2022 NOI, the facility also received septage from two septic companies, estimated at less than 10,000 gallons per week and less than 20 days per month. The 2022 NOI also included an estimate of total average daily flow as 0.16 million gallons per day (MGD), with non-domestic contributions estimated as 0.0096 MGD. Young and IHS representatives indicated water usage, and subsequently, wastewater flows, in the service area may have been greater than typically seen in similar communities because water was provided free to many users through the Rural Water System. Additionally, the Tribal Housing Authority encouraged residents to keep water running during the winter to prevent pipes from freezing.

The facility comprised a collection system with two lift stations, referred to as the Lower Lift Station (43.237426, -100.857289), also known as the Valley Lift Station, and the Upper Lift Station (43.245467, -100.846830), and a two-cell high-density polyethylene-lined intermittently discharged lagoon (influent manhole: 43.269897, -100.835003). The lagoon cells were typically operated in series. According to information provided by Young and IHS representatives during the inspection, wastewater from the southern portion of the collection system was collected at the Lower Lift Station and pumped to the Upper Lift Station, which also received wastewater from the remaining users in the collection system and pumped all wastewater to the lagoon. According to as-built drawings reviewed after the inspection (IHS Project No. AB-09-Z12, Z12MOA1, Sheet 7 of 10, December 2014, prepared by the IHS), a two-valve level control structure was installed between Cell 1 and Cell 2, a three-valve level control structure comprised the outfall from Cell 2, and valves along the influent force main could be configured to direct influent directly into Cell 2, bypassing Cell 1, if needed. During the opening conference, we discussed that, while no effluent flow measurement device was installed at the facility, average flow rates and total flow could be estimated for discharge events by performing calculations based on the dimensions of the lagoon, change in water level, and duration of discharge. According to information in the 2022 NOI, the lagoon was constructed around 2012 and had a total average design flow of 0.246 MGD and estimated 180 day retention time. The lagoon was constructed to replace an older, now-decommissioned lagoon system, located in the vicinity of the Upper Lift Station. Young stated operators visited both lift stations and cleaned the trash baskets on a daily basis, and the wet wells were not pumped dry and cleaned on any planned or routine basis.

We did not discuss all observations and recommendations included in the May 14, 2021 H&S *Performance Evaluation Report* at-length during the inspection; however, during the opening conference, I inquired as to whether the Sewer Revenue Department had acted on several specific observations and recommendations included in the *Performance Evaluation Report*. Young and IHS representatives indicated the Sewer Revenue Department had acted on H&S's observation that wintertime discharges from the facility appeared to generally result in better compliance with Permit numeric effluent limits, likely due to the limited presence of algae during winter months, and had conducted their first discharge of 2022 in March 2022 to target a winter discharge timeframe. IHS representatives indicated they were currently working on a SDS project to improve a portion of the collection system, which would help reduce inflow and infiltration, in-line with a recommendation in the *Performance Evaluation Report*. Details of this collection system improvement project were not discussed during the inspection. The Sewer Revenue Department had not implemented H&S's recommendations to relocate the location of septage dumping in Cell 1 further from the outlet to Cell 2, to evaluate whether short-circuiting may be occurring in Cell 1, or to remove trees from the lagoon berms. We did not discuss any other observations or recommendations included in the *Performance Evaluation Report*.

Inspection Narrative and Facility Description

Following the opening conference, remaining in the Water Resources Building, we observed copies of wastewater-related records, including the Permit, lift station operation and maintenance (O&M) manuals, and laboratory and field parameter measurement equipment. Young stated that, during effluent monitoring activities, pH measurements were taken in the field and recorded on sample chain-of-custody forms (COCs), and the analytical laboratory included the field pH measurements from the COCs on the corresponding final laboratory analytical reports. It is noted that, during my post-inspection review of monitoring records, I was not able to identify any field pH measurements recorded on the COCs I reviewed, discussed further in Finding 5. Young indicated no records of pH meter calibration were maintained. We observed several bottles of expired buffer solutions and informed Young that non-expired buffer solutions should be used to calibrate the pH meter during the next discharge monitoring event. We did not have time to review monitoring and reporting records during the inspection, so I informed Young that, after the inspection, I would review monitoring information accessible via EPA databases and request additional records via email, if needed. We then proceeded with the site review portion of the inspection. Young indicated neither he nor Sewer Revenue Department operators would be able to join for the field portion of the inspections, as they had other business to attend to, but that we could contact them if we had any questions throughout the day and request they meet us in the field, if needed. IHS representatives indicated they would be able to accompany us on the field portion of the inspection and could provide access to the requested facilities.

We then left the Water Resources Building and drove to the lagoon, where we observed the influent manhole (Photograph 8), drove around the perimeter of Cell 1 (Photograph 9), observed the septage dumping area in the northeast corner of Cell 1 (Photograph 10), located approximately 250 feet from the outlet to Cell 2, drove around the southern portion of the perimeter of Cell 2 (Photograph 15), and observed the outfall from Cell 2 and receiving drainage immediately downstream of the outfall (Photographs 11-14). Although a discharge was not intentionally occurring, some effluent appeared to be leaking through the outfall, as standing water and moist soil was present in the outfall culvert and receiving drainage for approximately 100 yards downstream of the outfall, beyond which the receiving drainage appeared generally dry.

We then drove to the Upper Lift Station (Photographs 16-18). Only one pump (Pump 2) was operating, on auto-mode. The switch for Pump 1 was in the off position (Photograph 16). We were not able to determine why Pump 1 was not operating. We also observed a portion of concrete or other similar material into which the lift station crane was anchored appeared to be degrading (Photograph 18).

We then drove to the Lower Lift Station (Photographs 20-22), the location of the 2017 SSOs and a primary subject of the 2018 AOC. We observed Rosebud Creek in the vicinity of the Lower Lift Station (Photograph 19), where raw sewage had flowed during the 2017 SSOs. The lift station control panel indicated both pumps were configured to auto-mode, but the "Pump Fail" light was illuminated for Pump 2, also known as the East Pump. We were unable to determine whether Pump 2 was operational. In the lift station maintenance logbook, stored in the control panel housing, the most recent logbook entry was from January 28, 2022, approximately 8 months prior to the inspection. The onsite portion of the inspection concluded when we left the Lower Lift Station at approximately 12:35 PM.

4.0 Post-Inspection Activities and Conclusion

After the inspection, I reviewed facility design and as-built drawings provided by the IHS and facility monitoring data reported by the Sewer Revenue Department for the three semi-annual monitoring periods spanning January 1, 2021 through June 30, 2022, accessed via the EPA's Integrated Compliance Information System (ICIS) (accessed December 2, 2022) and Central Data Exchange (CDX) (accessed

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December 14, 2022) databases. Monitoring records reviewed included Discharge Monitoring Reports (DMRs) and attached laboratory analytical reports and COCs submitted via the EPA's web-based NetDMR platform. I was not able to complete my review of data for the monitoring period spanning January 1, 2022 through June 30, 2022 because the correct analytical reports and COCs corresponding to this monitoring period were not attached to the NetDMR submittal, discussed further in Finding 10. On December 3, 2022, I emailed Young a request for these and other monitoring records. As of drafting this report, I have not received a response to my December 3, 2022 email, so this request is being reiterated via requested Corrective Action 10 in this report.

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

Findings, Corrective Actions, and Recommendations

Finding 1:

At the Lower Lift Station (Photographs 20-22), the lift station control panel indicated both pumps were configured to auto-mode, but the “Pump Fail” light was illuminated for Pump 2, also known as the East Pump. We were unable to determine whether Pump 2 was operational.

Inoperable pumps at this lift station resulted in the April 2017 and June 2017 SSOs into Rosebud Creek.

Permit Requirements:

Part 6.5 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 the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

Corrective Action 1:

Ensure two operational pumps are installed at the Lower Lift Station and are configured to run in accordance with applicable lift station O&M recommendations (e.g. alternating lead-lag configuration or other configuration recommended in the lift station O&M manual). In a response, provide a description of how this corrective action was completed and the date of completion.

Finding 2:

At the Upper Lift Station (Photographs 16-18), only one pump (Pump 2) was operating, on auto mode. The switch for Pump 1 was in the off position. We were not able to determine why Pump 1 was not operating.

Permit Requirements:

Part 6.5 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 the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

Findings, Corrective Actions, and Recommendations

Corrective Action 2:

Ensure two operational pumps are installed at the Upper Lift Station and are configured to run in accordance with applicable lift station O&M recommendations (e.g. alternating lead-lag configuration or other configuration recommended in the lift station O&M manual). In a response, provide a description of how this corrective action was completed and the date of completion.

Finding 3:

Although a discharge from the lagoon was not intentionally occurring, some effluent appeared to be leaking through the outfall from Cell 2, as standing water and moist soil was present in the outfall culvert and receiving drainage for approximately 100 yards downstream of the outfall, beyond which the receiving drainage appeared generally dry (Photographs 11-14).

Permit Requirements:

Part 6.5 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 the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

In addition to the operation and maintenance items in the manual for the lagoon system, the permittee shall do the following maintenance:

6.5.1. Take necessary action to promptly correct the problem of leakage through the dikes...

Corrective Action 3:

Ensure all three valves with the potential to release effluent from Cell 2 through the outfall are completely closed and cease any unintentional discharge from Cell 2. In a response, provide a photograph of the outfall culvert indicating this corrective action has been completed and provide a description of how this corrective action was completed and the date of completion. Alternatively, if complete closure of the valves is not feasible, provide a narrative explaining why it is not feasible and confer with the EPA on applicable permitting, monitoring, and reporting requirements.

Finding 4:

Weekly inspections were not conducted and recorded in accordance with the Permit.

This was also alleged as a violation of previous NPDES permit requirements and the Clean Water Act in the 2016 AOC (Paragraphs 35 and 38 of the 2016 AOC).

Findings, Corrective Actions, and Recommendations

Permit Requirements:

Part 3.3 of the Permit (Authorization to Discharge; Inspection Requirements) states:

3.3.1. On at least a weekly basis, unless otherwise modified by written approval from the EPA, the permittee shall inspect its wastewater treatment facility. The permittee shall maintain a notebook recording all information obtained during the inspection. At a minimum, the notebook shall include the following:

- 3.3.1.1. Name of facility and permit number;
- 3.3.1.2. Date and time of the inspection;
- 3.3.1.3. Name of the inspector(s);
- 3.3.1.4. The facility's discharge status;
- 3.3.1.5. The flow rate of the discharge if occurring;
- 3.3.1.6. 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 Parts 3.2 and 5.4 of this permit if not already done.);
- 3.3.1.7. Is there is any leakage through the dikes;
- 3.3.1.8. Are there are any animal burrows in the dike;
- 3.3.1.9. Is there any erosion of the dikes (e.g., rills, cracks or other structural indications of erosion);
- 3.3.1.10. Are there are any rooted plants, including weeds growing in the water;
- 3.3.1.11. Does the vegetation growth on the dikes needs mowing (e.g. greater than 6" tall);
- 3.3.1.12. List the date scheduled for operation and maintenance procedures to be undertaken at the wastewater treatment facility.
- 3.3.1.13. Identification of operational problems and/or maintenance problems;
- 3.3.1.14. Recommendations, as appropriate, to remedy identified problems;
- 3.3.1.15. A brief description of any actions taken with regard to problems identified; and,
- 3.3.1.16. Other information, as appropriate.

The permittee shall maintain the notebook 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 (see Part 5.10 of this permit).

3.3.3. Problems identified during the inspection shall be listed with corrective action and a time frame to correct the issue. Example: repair cracks in North berm, remove animal and repair burrow, within 7 days. (See Part 6.5 of this permit.)

Corrective Action 4:

Conduct and record weekly inspections in accordance with Part 3.3 of the Permit (or similar requirements of the 2022 LGP, if 2022 LGP coverage is issued to the facility prior to completion of this corrective action). In a response, provide a copy of at least two consecutive weekly inspection records containing all the information required by the requisite NPDES permit.

Finding 5:

Records pertaining to pH measurement, including records of original field measurements and records of pH meter calibration, were not maintained.

Findings, Corrective Actions, and Recommendations

Young stated that, during effluent monitoring activities, pH measurements were taken in the field and recorded on sample COCs, and the analytical laboratory included the field pH measurements from the COCs on the corresponding final laboratory analytical reports. However, during my review of COCs included with laboratory analytical reports attached to the NetDMR submittals for the monitoring period spanning January 1, 2021 through June 30, 2021, I was not able to identify any field pH measurements recorded on the COCs, although field pH measurement values were reported on several final analytical reports, in addition to laboratory pH measurement values. It is possible the field pH measurement values were rendered illegible during photocopying or were included on documents delivered to the laboratory other than the COCs that were included with the final laboratory results. Young also indicated no records of pH meter calibration were maintained.

Permit Requirements:

Part 5.7 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 this permit, inspection records, notifications to the EPA per this permit, and DMRs, for a period of at least five years from the date of the sample, measurement, report, application or submittal. Records of monitoring required by this permit related to sludge use and disposal activities must be kept at least five years (or longer as required by 40 C.F.R. Part 503). This period may be extended by request of the Director at any time. Data collected on site, data used to prepare the DMR, copies of DMRs, a copy of this NPDES permit, and the notice of intent for permit coverage, must be maintained on site.

Corrective Action 5:

Ensure the pH meter used to conduct field measurements is calibrated in accordance with manufacturer recommendations and records of calibration and field measurements are generated and maintained in accordance with Part 5.7 of the Permit (or similar requirements of the 2022 LGP, if 2022 LGP coverage is issued to the facility prior to completion of this corrective action). In a response, provide a description of how this corrective action has been completed or will be completed prior to the next field measurement event and provide copies of field pH measurement records from the monitoring period spanning January 1, 2021 through June 30, 2021.

Finding 6:

Numeric effluent limits for 30 Day Average and 7 Day Average concentrations of total suspended solids (TSS) were exceeded for the monitoring period spanning January 1, 2021 through June 30, 2021.

Based on my interpretation of monitoring records reviewed, the facility was discharged once during the subject monitoring period, with monitoring of the discharge spanning February 2, 2021 through February 9, 2021. The exact duration of the discharge was not indicated in any of the records I reviewed, discussed further in Finding 8. Based on the records I reviewed, TSS was monitored three times during this discharge event, with analytical results returning concentrations of 144 milligrams per liter (mg/L) (sample collected February 2, 2021), 14 mg/L (sample collected February 4, 2021), and 14 mg/L (sample collected February 9, 2021). The Sewer Revenue Department correctly calculated and reported the 30 Day Average and 7 Day Average values for TSS as 57.3 mg/L, exceeding numeric effluent limits for both parameters (30 mg/L and 45 mg/L, respectively) during this monitoring period.

Findings, Corrective Actions, and Recommendations

In the comments section of the DMR for this monitoring period, it is stated: “TSS sample result 144 mg/L on 2/2/21 was due to sampling error by the operator. The discharge pipe was not allowed to flush adequately prior to sample collection. Dirt that had blown into the pipe was collected with the sample causing the high TSS level. Subsequent 2nd and 3rd samples reflect the real range of the TSS during this discharge.”

Permit Requirements:

Part 3.1 of the Permit (Authorization to Discharge; Effluent Limitations) contains the following numeric effluent limits applicable to the facility:

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

TABLE 1 Effluent Limitations DISCHARGE Facilities			
Effluent Characteristic	30-Day Average <u>a/</u>	7-Day Average <u>a/</u>	Daily Maximum <u>a/</u>
5-day Biochemical Oxygen Demand (BOD ₅), mg/L	30	45	N/A
Total Suspended Solids (TSS), mg/L <u>b/</u>	30	45	N/A
The pH of the effluent shall not be less than 6.5 or greater than 9.0 in any single sample or analysis.			
The concentration of oil and grease in any single sample shall not exceed 10 mg/L nor shall there be any visible sheen in the receiving water or adjoining shoreline.			

Corrective Action 6:

Based on the comment included on the DMR for the subject monitoring period, the Sewer Revenue Department has identified a potential cause of the subject TSS exceedances. In a response, provide a description of any actions implemented by the Sewer Revenue Department to prevent this potential cause of a TSS exceedance from recurring (e.g. discharge monitoring training, development of SOPs, etc.).

Finding 7:

Minimum and maximum pH measurements were not correctly reported on the DMR for the monitoring period spanning January 1, 2021 through June 30, 2021.

Based on my interpretation of monitoring records reviewed, the facility was discharged once during the subject monitoring period, with monitoring of the discharge spanning February 2, 2021 through February 9, 2021. The exact duration of the discharge was not indicated in any of the records I reviewed, discussed further in Finding 8. Based on the records I reviewed, comprising COCs and analytical reports attached to the NetDMR submittal for this monitoring period, field pH was measured four times during this discharge event, returning values of 7.7 standard units (s.u.) (measurement conducted February 2, 2021), 8.0 s.u. (measurement conducted February 4, 2021), 8.0 s.u. (measurement conducted February 8, 2021), and 8.0 s.u. (measurement conducted February 9, 2021).

Findings, Corrective Actions, and Recommendations

Laboratory pH measurements were also reported on analytical reports for some samples analyzed over this timeframe; however, the 15 minute holding time for pH measurement was exceeded for all laboratory pH measurements, so these values are not usable for NPDES reporting purposes. On the DMR for the subject monitoring period, the Sewer Revenue Department incorrectly reported the minimum pH value as 8.21 s.u. (should be 7.7 s.u.) and incorrectly reported the maximum pH value as 8.32 s.u. (should be 8.0 s.u.). The Sewer Revenue Department may have referenced the laboratory pH measurements reported on the analytical reports instead of the field pH measurements when completing this DMR.

Permit Requirements:

Part 3.2.1.2 of the Permit (Authorization to Discharge; Sub-Category C – Semi-Annual/Periodic Monitoring) contains the following pH monitoring requirements applicable to the facility:

pH, standard units	b/	Instantaneous
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...b/ A minimum of three (3) samples or measurements shall be taken during any discharge of wastewater unless the discharge lasts only two days or less. 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...

Corrective Action 7:

Re-submit the DMR for the monitoring period spanning January 1, 2021 through June 30, 2021 with the correct minimum and maximum pH values. In a response, provide a copy of the corrected DMR and provide a description of any actions implemented by the Sewer Revenue Department to prevent this reporting error from recurring (e.g. training, development of SOPs, etc.).

Finding 8:

Flow was not measured, calculated, or reported for the discharge conducted during the monitoring period spanning January 1, 2021 through June 30, 2021. On the DMR for the subject monitoring period, a No Data Indicator Code of “Q – Not Quantifiable” was reported for flow.

During the opening conference, we discussed that, while no effluent flow measurement device was installed at the facility, average flow rates and total flow could be estimated for discharge events by performing calculations based on the dimensions of the lagoon, change in water level, and duration of discharge. It is noted that the duration of the subject discharge was not recorded in any records I reviewed.

Permit Requirements:

Part 3.2.1.2 of the Permit (Authorization to Discharge; Sub-Category C – Semi-Annual/Periodic Monitoring) contains the following flow monitoring requirements applicable to the facility:

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Flow, MGD <u>c/</u>	<u>b/</u>	Instantaneous
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...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 gallons per day) during the reporting period and the daily maximum flow (maximum volume discharged during a 24-hour period) shall be reported. Alternately, for facilities that do not have fixed flow measurement devices in place, flow may be estimated by performing calculations based on; the dimensions of the lagoon, discharge rate, length of discharge and depth markers.

Part 5.7 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 this permit, inspection records, notifications to the EPA per this permit, and DMRs, for a period of at least five years from the date of the sample, measurement, report, application or submittal. Records of monitoring required by this permit related to sludge use and disposal activities must be kept at least five years (or longer as required by 40 C.F.R. Part 503). This period may be extended by request of the Director at any time. Data collected on site, data used to prepare the DMR, copies of DMRs, a copy of this NPDES permit, and the notice of intent for permit coverage, must be maintained on site.

Corrective Action 8:

For all future discharges, ensure required flow parameters are calculated and reported in accordance with Part 3.2.1.2 of the Permit (or similar requirements of the 2022 LGP, if 2022 LGP coverage is issued to the facility prior to completion of this corrective action), and records of all supporting measurements and calculations, including discharge durations, are maintained in accordance with Part 5.7 of the Permit (or similar requirements of the 2022 LGP, if 2022 LGP coverage is issued to the facility prior to completion of this corrective action). In a response, provide a description of how this corrective action has been completed or will be completed during the next discharge event.

Finding 9:

DMRs for the three semi-annual monitoring periods evaluated (spanning January 1, 2021 through June 30, 2022) were submitted late.

DMRs are due 28 days after the conclusion of the subject reporting period. For the reporting period ending June 30, 2021, the DMR was submitted on August 23, 2021, 26 days late; for the reporting period ending December 31, 2021, the DMR was submitted on February 8, 2022, 11 days late; and for the reporting period ending June 30, 2022, the DMR was submitted on August 9, 2022, 12 days late.

Permit Requirements:

Part 5.4.2 of the Permit (Reporting of Effluent Monitoring Results for Calendar Quarter or Semi-Annual Period Discharge Facilities) states:

Effluent monitoring results obtained during the previous calendar quarter or semi-annual period shall be summarized and reported on a Discharge Monitoring Report (DMR) Form (EPA No. 3320-1),

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postmarked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported, see example below. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements (see Part 7.7), and submitted to the Planning and Targeting Program and the applicable Tribe at the addresses given in Part 5.4.4 below.

Example:

Reporting Period	DMR Due Date
Quarterly (e.g. April – June)	28 th day following the end of the quarter (July 28 th)
Semi-annually (e.g. July – December)	28 th day following the end of the 6 th month (January 28 th)

Corrective Action 9:

Ensure all DMRs are submitted within 28 days following the end of the corresponding reporting period. In a response, provide an explanation of how the Sewer Revenue Department will ensure future DMRs are submitted within required timeframes.

Finding 10:

Sample COCs and laboratory analytical reports for the monitoring period spanning January 1, 2022 through June 30, 2022 have not been made available to EPA inspectors.

We did not have time to review monitoring and reporting records during the inspection, so I informed Young that, after the inspection, I would review monitoring information accessible via EPA databases and request additional records via email, if needed. After the inspection, I reviewed facility monitoring data reported by the Sewer Revenue Department for the three semi-annual monitoring periods spanning January 1, 2021 and June 30, 2022, accessed via the EPA's ICIS (accessed December 2, 2022) and CDX (accessed December 14, 2022) databases. Monitoring records reviewed included DMRs and attached laboratory analytical reports and COCs submitted via the EPA's web-based NetDMR platform. The DMR attachment submitted for the monitoring period spanning January 1, 2022 through June 30, 2022 erroneously comprised monitoring records from 2019. On December 3, 2022, I emailed Young a request for the correct 2022 monitoring records and other records. As of drafting this report, I have not received a response to my December 3, 2022 email.

Permit Requirements:

Part 5.2 of the Permit (Inspection and Entry) states:

The permittee shall allow the Regional Administrator or authorized representative (including an authorized contractor acting as a representative of the Administrator) upon presentation of credentials and other documents as may be required by law, to...

5.10.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit...

Part 5.7 of the Permit (Retention of Records) states:

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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 this permit, inspection records, notifications to the EPA per this permit, and DMRs, for a period of at least five years from the date of the sample, measurement, report, application or submittal. Records of monitoring required by this permit related to sludge use and disposal activities must be kept at least five years (or longer as required by 40 C.F.R. Part 503). This period may be extended by request of the Director at any time. Data collected on site, data used to prepare the DMR, copies of DMRs, a copy of this NPDES permit, and the notice of intent for permit coverage, must be maintained on site.

Part 7.5 of the Permit (Duty to Provide Information) states:

The permittee shall furnish to the Director, within a reasonable time, any information which the Director 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 Director, upon request, copies of records required to be kept by this permit.

Corrective Action 10:

In a response, provide copies of COCs and laboratory analytical reports supporting the data submitted on the DMR for the monitoring period spanning January 1, 2022 through June 30, 2022. The Sewer Revenue Department may also wish to remove or correct the attachment to this DMR in NetDMR.

Finding 11:

Trees were observed growing in the berms around both lagoon cells (Photographs 9, 10, and 15).

Tree growth in lagoon berms can cause weakening of the berms, prevent thorough visual inspections and identification of potential problems, create seepage pathways, and reduce wind action over the lagoon.

This was also alleged as a violation of previous NPDES permit requirements and the Clean Water Act in the 2016 AOC (Paragraph 34 of the 2016 AOC).

Permit Requirements:

Part 6.5 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 the permit. However, the permittee shall operate, at a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

In addition to the operation and maintenance items in the manual for the lagoon system, the permittee shall do the following maintenance:

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...6.5.4. Remove rooted plants, including weeds, from the water on a regular basis or as needed; and 6.5.5. Keep the dikes mowed on a regular basis during the growing season or as needed (e.g., keep growth below 6" in height).

EPA Guidance:

The following EPA guidance materials advise against allowing trees to grow around lagoons and provide potential options for removal and prevention.

- *Principles of Design and Operations of Wastewater Treatment Pond Systems for Plant Operators, Engineers, and Managers*, EPA, August 2011
<https://www.epa.gov/sites/default/files/2014-09/documents/lagoon-pond-treatment-2011.pdf>
- *EPA Compliance Advisory: Compliance Tips for Small Wastewater Treatment Lagoons with Clean Water Act Discharge Permits*, EPA, March 2011
<https://www.epa.gov/system/files/documents/2022-03/lagoon-complianceadvisory.pdf>

Non-EPA Guidance:

The May 14, 2021 H&S *Performance Evaluation Report* recommends:

Fast-growing Cottonwood trees will destabilize a pond system's dike slope in just a few years. Remove them while they are small and still manageable.

Recommendation:

To prevent problems potentially caused by trees growing in lagoon berms, safely remove trees from the lagoon berms and implement a preventive maintenance program to prevent future growth. No response is requested pursuant to this recommendation.

Finding 12:

Septage was being dumped in the northeast corner of Cell 1 (Photograph 10), approximately 250 feet from the outlet from Cell 1 to Cell 2.

Septage generally contains higher concentrations of pollutants than domestic wastewater. The proximity of the septage dumping location in Cell 1 to the outlet to Cell 2 (as opposed to dumping septage elsewhere in Cell 1, further from the outlet) increases the potential for reduced hydraulic retention and treatment of septage in Cell 1, potentially reducing the overall treatment efficacy of the lagoon system. This topic was discussed during the inspection and Young and IHS representatives indicated septage haulers may be resistant to driving a further distance to dump septage elsewhere in Cell 1, further from the outlet.

Non-EPA Guidance:

The May 14, 2021 H&S *Performance Evaluation Report* recommends:

Drive to the very west end, the farthest point from the effluent of Cell # 1, to dump septage...

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Dump Septage at the Farthest Point from the Effluent of Cell # 1 Leading to Cell # 2... Septage is currently be being dumped 250 feet from the effluent structure of Cell # 1. The BOD should be much lower than 30 mg/l at the effluent of Cell # 2, especially after over a year of water storage and treatment...

It may be more work, but each septage load should be dumped 1,700 feet to the west end of Cell # 1. Each septage dump is being added to Cell # 1 just two hundred feet from the effluent of Cell #1 into Cell # 2. This is a short-circuit of high-strength sewage and is why Cell # 2 BOD is 30 mg/l, and the Soluble (SCBOD) is 16 mg/l. These numbers are about three (3) times higher than normal. These BODs should be in the single digits.

Septage should be hauled to the farthest point away from the effluent of Cell # 1. Haul septage to the west side of Cell # 1 to dump. This may be difficult and inconvenient, but it may be the only way for Rosebud to get into compliance with summer discharges.

Recommendation:

Maximize the hydraulic retention and treatment of septage dumped in Cell 1, relocating the septage dumping location, if necessary. No response is requested pursuant to this recommendation.

Finding 13:

At the Upper Lift Station, a portion of concrete or other similar material into which the lift station crane was anchored appeared to be degrading (Photograph 18).

Recommendation:

To ensure safety of operators and proper operation of equipment, ensure the foundation into which the subject lift station crane is anchored is structurally sound and the crane is securely anchored.