

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 8
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STATEMENT OF BASIS**

PERMITTEE: City of Wagner

FACILITY NAME AND ADDRESS: City of Wagner Wastewater Treatment Facility
60 South Main
Wagner, South Dakota 57380-0040

PERMIT NUMBER: SD-0020184

RESPONSIBLE OFFICIAL: Mike Kazena, Wastewater Superintendent
City of Wagner
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Wagner, South Dakota 57380-0040
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FACILITY CONTACT: Mike Kazena, Wastewater Superintendent
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mike.kazena@cityofwagner.com

PERMIT TYPE: Minor Municipal Wastewater Treatment Plant
(Renewal)

FACILITY LOCATION: The Facility is located east of the intersection
of Poplar Drive and 10th Avenue Northeast
within the Yankton Sioux Reservation.

Charles Mix County, Wagner, South Dakota,
Section 34, Township 96 N, Range 63 W
Latitude/Longitude 43.0848, -98.2814

1 INTRODUCTION

This statement of basis (SoB) is for the issuance of a National Pollutant Discharge Elimination System (NPDES) permit (the Permit) to the City of Wagner for the Wagner Wastewater Treatment Facility (Facility). The Permit establishes discharge limitations for any discharge of wastewater from the Facility through Outfall 001 to an unnamed tributary to Choteau Creek. The SoB explains the nature of the discharges, the EPA's decisions for limiting the pollutants in the wastewater, and the regulatory and technical basis for these decisions.

The Facility is located within the boundary of the Yankton Sioux Reservation. The EPA, Region 8, is the permitting authority for facilities located in Indian country, as defined in 18 U.S.C. § 1151, located within Region 8 states and implements federal environmental laws in Indian country consistent with the [EPA Policy for the Administration of Environmental Programs on Indian Reservations](#) and the federal government's general trust responsibility to federally recognized Indian tribes.

2 MAJOR CHANGES FROM PREVIOUS PERMIT

Major changes from the previous permit include the following:

- Percent removal effluent limitations for 5-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS) have been added. See section 6.1 of the SoB.
- Ammonia effluent limits have been removed and replaced with Best Management Practices. See section 6.2.1 of the SoB.
- pH effluent limitations have been revised. See section 6.2.3 of the SoB.
- Monitoring at Outfall 001 has been added during months when no wastewater loading of the Infiltration/Percolation (I/P) basins occurs. See section 7.1.1 of the SoB.
- *Escherichia coli* (*E. coli*) monitoring at Outfall 001 has been revised. See section 7.1.1.3 of the SoB.
- Flow monitoring frequency has been revised to weekly monitoring. See section 7.1.1.1 of the SoB.
- Nutrient monitoring at Outfall 001 has been added. See section 7.1.1.8 of the SoB.
- Ammonia monitoring at Outfall 001R has been added. See section 7.1.3 of the SoB.
- Requirements for implementing an Asset Management Plan have been added. See section 10.2 of the SoB.
- Requirements for implementing an Industrial Waste Survey have been added. See section 10.3 of the SoB.

3 BACKGROUND INFORMATION

The Facility is owned and operated by the City of Wagner and is a facultative lagoon system located within the exterior boundary of the Yankton Sioux Reservation. The Facility has one discharge point, Outfall 001, which is located at latitude 43.09120, longitude -98.27403, and discharges to an unnamed tributary that flows approximately 0.08 miles to Choteau Creek.

The following background information was obtained from the Facility's application for renewal of the Permit.

3.1 Service Area Description

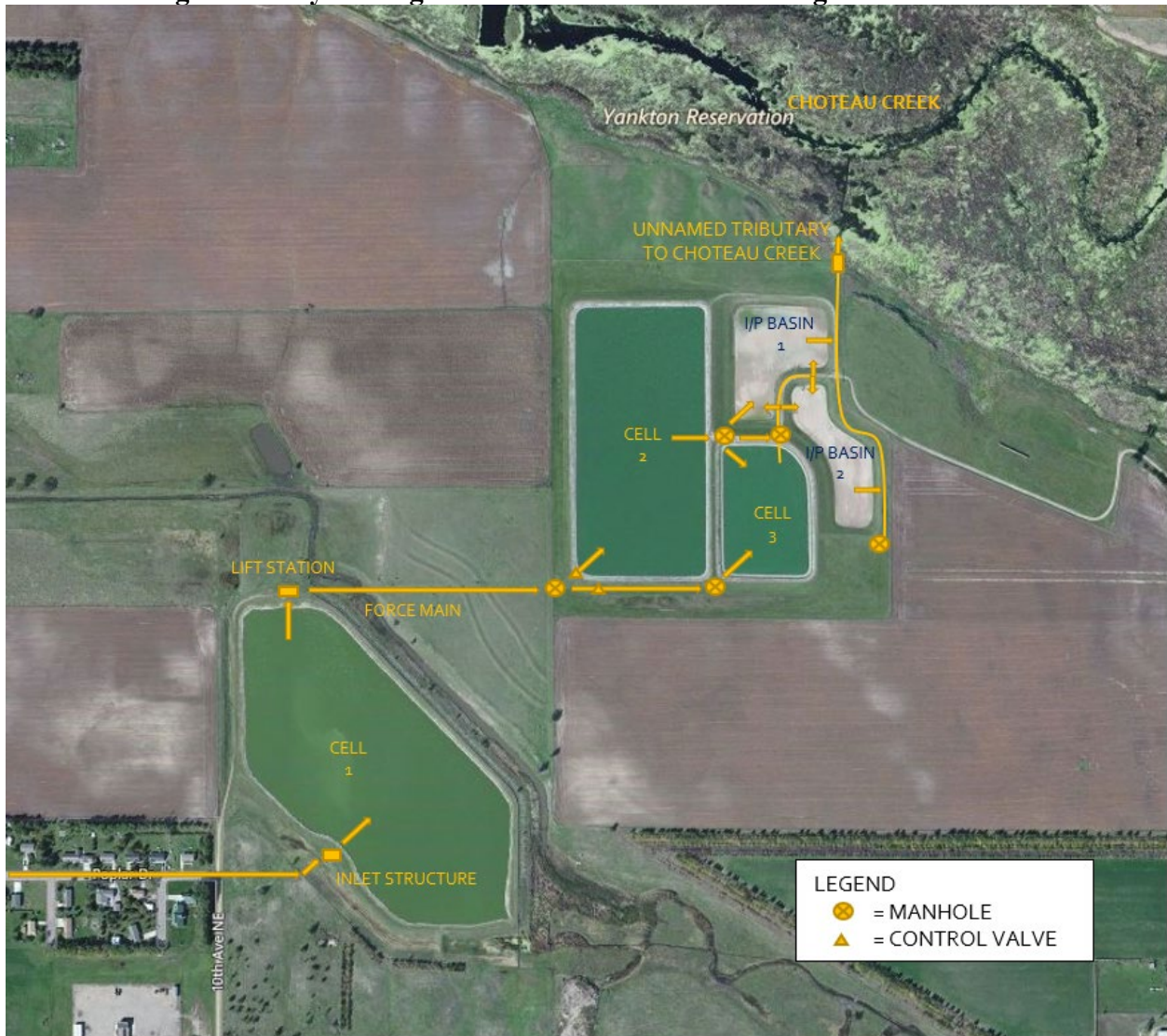
Based on the information provided in the Facility's NPDES permit application, the Facility services approximately 2,265 residents located in the City of Wagner, Yankton Sioux Tribal housing, and Tower housing. The City of Wagner has a small municipal airport; a community hospital and small clinics; dental care facilities; a community school (pre-K thru 12); and multiple churches. In addition to the service described above, the lagoon services commercial and ranching activities. There are no known significant industrial users to the system.

3.2 Treatment Process

The Facility reported a design flow of 0.5 million gallons per day (mgd) and an average annual flow of 1.44 mgd on their permit application. The Facility treats domestic sewage using a three-cell facultative lagoon system and two infiltration and percolation (I/P) basins (Figure 1). Sewage flows by gravity to cell #1 (20.4 acres), then a lift station pumps the wastewater to cell #2 (13.2 acres). From cell #2 wastewater flows to cell #3 (4.4 acres). Cells #2 and #3 were built with the option to be operated in series or parallel but are currently run in series. When cell #3 reaches capacity, the valve between cell #3 and the I/P basins is opened, and wastewater is conveyed by gravity to I/P basin #1 (2.9 acres) and I/P basin #2 (2.05 acres). It takes approximately two days for cell #3 to completely drain to the I/P basins, at which point the valve between cell #3 and the I/P basins is closed. The I/P basins utilize gravity and a drain tile system to funnel wastewater to the discharge point located about 100 feet from the northeast corner of the I/P basin #1. The Facility reported that it takes about seven days to drain approximately 20-25 acre-feet (approximate capacity of cell #3) of wastewater through the I/P basins and out to Outfall 001. Flow measurements at Outfall 001 are accomplished with a v-notch weir. The last major upgrade to the Facility was in 1989 and included cell #3 and the two I/P basins. While the effluent may not be continuous, subsurface flow intercepted in the I/P basin's drain tile system results in a continuous discharge from Outfall 001.

The lagoon system utilizes settling, biological process, and retention time to treat wastewater. Suspended solids settle to the bottom of the shallow lagoon cells and form a sludge layer, which decomposes anaerobically.

Figure 1. City of Wagner Wastewater Treatment Lagoon schematic



3.3 Chemicals Used

Based on the information provided in the permit application, the Facility’s primary treatment process is designed to consist of wastewater treatment lagoon cells. There are no chemicals added during the treatment process.

4 PERMIT HISTORY

According to the EPA records maintained for the Facility, this renewal is the fourth issuance of this NPDES permit. The previous permit for the Facility became effective on October 1, 2017, and was set to expire on September 30, 2022. The Facility submitted a permit renewal application prior to the permit’s expiration, which the EPA received in February 2022 and thus the previous permit was administratively continued.

Flow discharging from Outfall 001 can be broadly characterized as two types: treated wastewater released from cell #3 to I/P basins that discharges from Outfall 001 intermittently and subsurface groundwater captured in the I/P basin's collection system (no wastewater loading to I/P basins) that discharges continuously. From the 2006 permit cycle forward, each permit has slightly modified the monitoring frequency for each discharge type. The 2006 permit required weekly effluent monitoring and monthly monitoring of the subsurface flow. The 2011 permit required three effluent monitoring samples to be collected for each loading of wastewater to the I/P basins and allowed for a reduction to two samples after two years of compliance with effluent limits. Subsurface flow monitoring in the 2011 permit was required only during months when there was no effluent loading to I/P basins. The 2017 permit further reduced the effluent monitoring to a single monthly sample when I/P basin loading had occurred and removed monitoring requirements for the subsurface flow. The historical permits describe consistency in both the effluent and subsurface flow chemistry, and permit limit compliance as the justification for a general reduction in monitoring frequencies.

4.1 Discharge Monitoring Report Data

Discharge monitoring report (DMR) data provided by the Facility during the previous permit cycle is summarized in Table 1. The Facility reported DMR data for effluent discharges and receiving water. A review of the DMR data found the Facility exceeded the 30-day average and daily maximum limits for both ammonia and *E. coli* on multiple occasions.

Table 1. Summary of the DMR Data (October 2017 to December 2023) for Outfall 001 from the EPA’s Integrated Compliance Information System (ICIS) database (date assessed January 2024)

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Exceedances
Discharge Volume, million gallons per day (mgd)	N/A	1.05	0.02-1.64	41	N/A
5-Day Biochemical Oxygen Demand (BOD ₅), 30-Day average, mg/L	30	4.14	2 – 14.5	45	0
5-Day Biochemical Oxygen Demand (BOD ₅), 7-Day average, mg/L	45	4.68	2 – 19	45	0
Total Suspended Solids (TSS), 30-Day Average, mg/L	30	4.65	3 – 14	45	0
Total Suspended Solids (TSS), 7-Day Average, mg/L	45	5.02	3 – 15	45	0
<i>E. coli</i> , 30-Day Average, cfu/100 mL	126	118	1 – 921	17	4
<i>E. coli</i> , Daily Maximum, #/100 mL	410	153	1 – 921	17	2

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Exceedances
Oil and Grease, Daily Maximum, mg/L	10	Never observed	Never observed	45	0
Ammonia as N, 30-day Average, mg/L	0.7 – 1.7 a/	0.82	0.06 – 5.81	45	9
Ammonia as N, Daily Maximum, mg/L	3.0 – 3.2 a/	0.94	0.06 – 5.98	45	3
pH	6.0 – 9.0	7.55	7.02 – 8.73	45	0

a/ Ammonia limit varies depending on month. Range provided here are the minimum and maximum monthly limits.

4.2 Other Facility History

The EPA conducted an on-site inspection of the Facility on November 8, 2019. The inspection report included the following findings:

- The Facility has been monitoring flow from sections of the collection systems to inform projects associated with the identification and reduction of I&I issues.
- The Facility’s laboratory reports did not include all analytical techniques or methods used.
- There was a discrepancy between DMR data submitted and a laboratory analytical report from March 2018.
- There were reporting errors for BOD₅ and TSS 7-day averages in March 2019.
- Flow volume through the Facility routinely exceeds the design flow rate and capacity reported in the Permit application.

The inspection report provided findings and corrective actions from the inspection. In June 2020, the Facility responded to each of the findings and corrective actions identified in the inspection report and detailed how the Facility would address the findings from the EPA’s inspection report.

4.3 Performance Evaluation (April 2021)

In October 2020, H&S Environmental, LLC (H&S), and the EPA, in conjunction with the National Rural Water Association, began plans for a lagoon technical workshop and small wastewater system performance evaluations in South Dakota with on-site technical support for two tribal South Dakota lagoon systems. The Facility was selected as a lagoon system to visit and evaluate. The purpose of this visit was to focus on methods to optimize the City of Wagner’s wastewater stabilization pond systems to better meet future discharge permit limits.

On April 19-20, 2021, H&S conducted field sampling at the City of Wagner wastewater lagoons. Using data obtained from the field sampling, combined with staff interviews and a DMR data review, H&S reached the following conclusions:

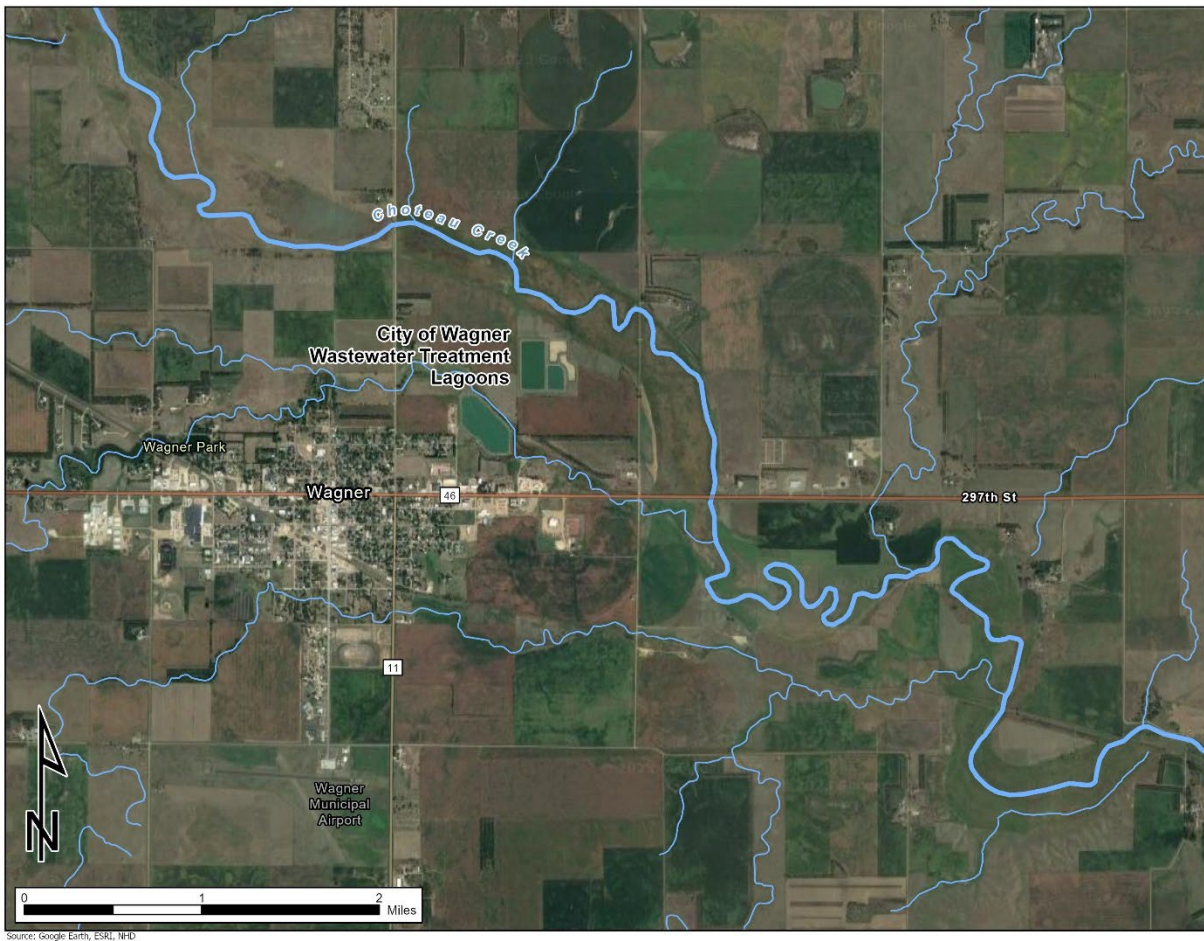
- Trends in all measured permit parameters, except pH, show an increase in monthly results. Monthly average flow, BOD₅, TSS, ammonia, and temperature are all increasing year after year.
- Based on average 5-year flows and pond depths, the City of Wagner has a theoretical retention time of 517 days.
- The sludge blanket thickness in cell #1 was measured at 1.35 feet. Sludge blanket depths from cells #2 and #3 could not be measured during the field sampling.
- The major ammonia removal pathway at the Wagner wastewater pond system appears to be nitrification during the spring and summer. The high levels of pH also indicate volatilization plays a significant part in ammonia removal.
- Dissolved oxygen (DO) concentrations measured above 13 mg/l in cells #1, #2, and #3 at 5:30AM.

Upon completion of the performance evaluation in April 2021, H&S recommended desludging cell #1 and, based on results from sludge depth measurements, potentially desludging cells #2 and #3. H&S also recommended quantifying the residence time for each cell, monitoring DO levels, and performing diagnostics on each of the cells with the intent of increasing BOD₅ removal efficiency in cell #1, while the treatment occurring in cells #2 and #3 would become more focused on clarifying the water and pathogen removal.

5 DESCRIPTION OF RECEIVING WATER

The discharge from Outfall 001 enters an unnamed tributary northeast of I/P basin #1 and flows approximately 0.08 mile to Choteau Creek. From the unnamed tributary, Choteau Creek flows approximately 27 stream miles to the Yankton Sioux Reservation boundary. Choteau Creek serves as the boundary between the Yankton Sioux Reservation and the state of South Dakota for an additional 13.5 stream miles before flowing into the Missouri River/Lewis and Clark Lake. Overall, Choteau Creek is 96 stream miles in length, and approximately 50 of those stream miles are within the Yankton Sioux Reservation.

Figure 2. City of Wagner collection area and receiving stream



6 PERMIT LIMITATIONS

6.1 Technology Based Effluent Limitations (TBELs)

The National Secondary Standards (NSS) for secondary treatment have been developed by the EPA and represent the level of effluent quality attainable through the application of secondary or equivalent treatment (40 CFR Part 133). The regulation applies to all publicly owned treatment works (POTWs) and because the Facility is a POTW, as defined in 40 C.F.R. § 403.3, the Facility's existing NSS limits will be carried forward to the new permit (Table 2).

In addition to the Facility's existing NSS limits, the EPA is including the 5-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS) percent removal requirements from the Treatment Equivalent to Secondary Treatment standards at 40 CFR § 133.105(a)(3) and (b)(3) (Table 2). Since percent removal has not been previously included in the Facility's permit coverage, there is no current Facility influent data available to evaluate the quality of wastewater received (e.g., influent consisting of less concentrated wastewater, inflow/infiltration (I/I) issues, etc.). As a result, there is no data to provide insight on influent quality and whether the Facility can achieve treatment to the level of 85% removal for BOD₅

and TSS, which is the standard in the NSS at 40 CFR § 133.102. Hence, the EPA is instead using the lower percent removal requirements from the Treatment Equivalent to Secondary standards as noted above. With these percent removal requirements in the Permit, the permittee will be able to gather and evaluate influent data to ensure the following:

- a) the Facility meets the minimum treatment equivalent to secondary treatment requirements (taking into consideration the allowances per 40 CFR §133.101(g) for facilities utilizing waste stabilization ponds [e.g., lagoons] as their principal process);
- b) ensure significant biological treatment as defined in 40 CFR §133.101(k); and
- c) better support future decision making regarding the application of these regulations, including 40 CFR § 133.103(d), and 133.105 (a)(3) and (b)(3).

For the calculation of BOD₅ and TSS percent removal limits, additional sampling and sample locations will be added for the collection of an influent sample(s). To ensure the influent sample is representative of the sewage entering the Facility, it must be collected prior to any of the Facility’s treatment systems. A minimum of monthly influent sampling shall be required.

Table 2. Secondary treatment standards

Parameter	30-day average (mg/L)	7-day average (mg/L)	30-day average percent removal (%)
BOD ₅	30	45	≥ 65, a/
TSS	30	45	≥ 65, a/
pH	Maintained within the limits of 6.0 to 9.0		

a/ The percent removal requirements for BOD₅ and TSS are based on 40 C.F.R. § 133.105(a)(3) and (b)(3) and are being included in the Permit to ensure that the Permit meets the minimum equivalent to secondary treatment requirements, taking into consideration the allowances in 40 C.F.R. §133.101(g) for facilities utilizing waste stabilization ponds (e.g., lagoons) as their principal process.

6.2 Water Quality Based Effluent Limitations (WQBELs)

The Facility discharges to an unnamed tributary to Choteau Creek. The receiving water is within the boundaries of the Yankton Sioux Reservation. The Yankton Sioux Tribe does not have EPA-approved WQS under Section 303(c) of the Clean Water Act (CWA). Section 101(a)(2) of the CWA states, “[I]t is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water to be achieved by July 1, 1983.” To achieve this Congressional goal in the absence of federally approved Tribal WQS on the Reservation, the EPA considers the beneficial uses of the receiving waters to include aquatic life and recreation. The EPA relied on CWA § 301(b)(1)(C) and principles of Tribal sovereignty in establishing WQBELs based on the EPA’s Section 304(a) recommended water quality criteria (WQC) to protect the uses of the Tribe’s receiving water(s).

In consideration of downstream WQS for Choteau Creek in South Dakota, the distance from the Facility’s discharge to the Yankton Sioux reservation boundary was mapped and is approximately 27 stream miles. Based on the intermittent nature of the discharge, the dilution

and attenuation provided by Choteau Creek (within the Reservation boundary) and its tributaries, and the distance from the discharge point to the shared border with South Dakota, the EPA determined the effluent has no potential to cause or contribute to an excursion of South Dakota's WQS. Therefore, South Dakota's WQS were not considered in the development of the Permit.

6.2.1 Total Ammonia Nitrogen (as N), mg/L

With the issuance of this Permit, the Facility will be required to incorporate optimization Best Management Practices (BMPs) in alignment with 40 CFR 122.44(k)(4) which authorizes BMPs to control or abate the discharge of pollutants when, "The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA." In this instance, BMPs to reduce ammonia in the Facility's discharge will serve to protect aquatic life in the receiving water and replace numeric effluent limitations. This BMP approach is consistent with the intent of Section 101(a)(2) the CWA, which establishes a national goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water," 33 U.S.C. § 1251(a)(2). Section 8.1 describes the requirements for an ammonia best management practices implementation plan. In addition to the implementation of BMPs, ammonia monitoring and reporting will be required on a monthly basis to evaluate the effectiveness of optimization BMPs and inform future permitting decisions.

6.2.2 *Escherichia coli* (*E. coli*)

The EPA's 2012 Recreational Water Quality Criteria provides protective criteria for pathogens for primary contact recreational uses ("Recreational Water Quality Criteria", Office of Water 820-F-12-058, 2012). These contact values for *E. coli* in freshwater are 410 colony forming units [cfu]/100 mL (statistical threshold value) and 126 cfu/100 mL (geometric mean). To implement these standards in the Permit, a limitation will be included based on the geometric mean from the total number of samples collected during the 30-day period. The Permittee may collect more samples than the monthly samples specified in the self-monitoring requirements. Additionally, a daily maximum limitation will be included based on the statistical threshold value. The EPA Region 8 does not allow for any type of mixing zone for bacteria – the above effluent limitations apply at the end of the discharge pipe.

The bacteria reporting and analytical measurement units used in the Permit are the number per volume analyzed (i.e., "Number/100 mL" or "no./100 mL"), to be inclusive of all potential approved analytical units of measure for EPA-approved bacteria analyses applicable to wastewater (i.e., Colony Forming Units (CFU) and Most Probable Number (MPN)).

6.2.3 pH

The Facility meets the definition of a POTW as defined in 40 C.F.R. § 403.3 (section 6.1). Additionally, the EPA considers the beneficial uses of the receiving waters to include the protection of aquatic life. Therefore, the NSS for POTWs in 40 C.F.R. part 133 should be

applied in conjunction with the EPA National Recommended Aquatic Life Criteria. The pH range for NSS is 6.0 - 9.0; however, the range for the EPA National Recommended Aquatic Life Criteria for freshwater is 6.5 - 9.0. While the previous permit applied the NSS range, this Permit cycle will adopt the more stringent 6.5 - 9.0 range, which is protective of the aquatic life use of the receiving stream.

6.2.4 Oil and Grease

The Facility is required to monitor effluent for oil and grease on a weekly frequency using a visual inspection. 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 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

The limit for oil and grease is based on a combination of EPA Region 8 professional judgement and protecting the receiving waters from a visible “sheen or floating oil.” The visual narrative “sheen or floating oil” requirement was developed in alignment with 40 CFR § 401.16 which lists “oil and grease” as a conventional pollutant (as related to technology-based limitations in line with 40 CFR 125.3(h)(1)), pursuant to section 304(a)(4) of the Act, as well as the National Recommended Aquatic Life Criteria which recommends that “surface waters shall be virtually free” from floating oils of petroleum origin and floating nonpetroleum oils of vegetable or animal origin, as “floating sheens of such oils result in deleterious environmental effects.”

These limits are in alignment with the Facility’s previous permit requirements. They are also being incorporated based on the potential for discharge from non-residential/non-domestic discharge into the Facility from local businesses.

6.3 Final Effluent Limitations

Applicable TBELs and WQBELs were compared, and the most stringent of the two was selected for the following effluent limits (Table 3).

Table 3. Final Effluent Limitations for Outfall 001

Effluent Characteristic	30-Day Average Effluent Limitations a/	7-Day Average Effluent Limitations a/	Daily Maximum Effluent Limitations a/	Limit Basis b/
Flow, mgd	report only	N/A	report only	N/A
Biochemical Oxygen Demand (BOD ₅), mg/L	30	45	N/A	TBEL
BOD ₅ , percent removal, c/	≥ 65%	N/A	N/A	TBEL
Total Suspended Solids (TSS), mg/L	30	45	N/A	TBEL
TSS, percent removal, c/	≥ 65%	N/A	N/A	TBEL

Effluent Characteristic	30-Day Average Effluent Limitations a/	7-Day Average Effluent Limitations a/	Daily Maximum Effluent Limitations a/	Limit Basis b/
<i>Escherichia coli</i> (<i>E. coli</i>), number/100 mL d/	126	N/A	410	WQBEL
Total Ammonia Nitrogen (as N), mg/L	report only	N/A	report only	N/A
Total Kjeldahl Nitrogen (as N), mg/L	report only	N/A	report only	N/A
Nitrate-Nitrite (as N), mg/L	report only	N/A	report only	N/A
Total Nitrogen, mg/L e/	report only	N/A	report only	N/A
Total Phosphorus, mg/L	report only	N/A	report only	N/A
Temperature, °C	report only	N/A	report only	N/A
Oil and Grease, mg/L f/	N/A	N/A	10	TBEL
Oil and Grease, (Narrative Limit), f/	A visual inspection must be performed weekly. There shall be no visible sheen or floating oil detected. If a sheen or floating oil is detected, a grab sample shall be taken immediately and analyzed.			TBEL
pH, standard units, g/	Must remain in the range of 6.5 to 9.0 <i>at all times</i>			WQBEL

a/ See section 1 of the Permit for definition of terms.

b/ WQBEL = Limitation based on water quality-based effluent limit; TBEL = Limitation based on technology based effluent limit; PP = Limitation based on previous permit

c/ The percent removal requirements for BOD₅ and TSS are based on 40 C.F.R. § 133.105(a)(3) and (b)(3), taking into consideration the allowances in 40 C.F.R. §133.101(g) for facilities utilizing waste stabilization ponds (e.g., lagoons) as their principal process.

d/ Per the EPA's 2012 recommended *E. coli* criteria for primary contact recreation ("Recreational Water Quality Criteria", Office of Water 820-F-12-058), the 30-day Average is to be calculated using the 30-Day geometric mean. The 30-day geometric mean calculation will be based on the geometric mean from the total number of samples collected during the 30-day period. The 30-day average geometric mean shall not exceed 126 Number/100 mL. The daily maximum limitation will be 410 Number/100 mL.

e/ 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".

f/ 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.

g/ The pH range for NSS is 6.0 – 9.0 however, the EPA National Recommended Aquatic Life Criteria freshwater chronic range is 6.5 – 9.0. The range of 6.5 – 9.0 has been selected to ensure that the range is protective of the more stringent requirements.

6.4 Antidegradation

The Yankton Sioux Tribe does not have an antidegradation policy because they do not have approved water quality standards. As a result, there are no antidegradation requirements.

6.5 Anti-Backsliding

Federal regulations at 40 CFR Part 122.44(l)(1) require that when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit were based have materially and substantially changed since the time the Permit was issued and would constitute cause for permit modification or revocation and reissuance under 40 CFR Part 122.62.

This permit renewal complies with anti-backsliding regulatory requirements. All effluent limitations, standards, and conditions in the Permit are either equal to or more stringent than those in the previous permit, with the exception of the ammonia limits.

Though the Tribe does not currently have EPA-approved water quality standards, the previous ammonia limit was developed pursuant to section 301(b)(1)(C) to protect aquatic life using the Agency's Section 304(a) recommended water quality criteria for ammonia. In the timeframe since the previous permit development and reissuance, collection of data and information for lagoon systems has been ongoing, providing an increased understanding of the limitations lagoons face in treating ammonia in wastewater, and how optimization improvements and BMPs can influence lagoon wastewater treatment processes. Therefore, with this permit reissuance, ammonia optimization BMPs and monitoring requirements have been incorporated to protect aquatic life in the receiving water and will replace the ammonia limits from the previous permit. Under Section 402(o)(2)(B)(i) of the CWA, 33 U.S.C. § 1342(o)(2)(B)(i), a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if:

“Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance...”

In consideration of the EPA's improved understanding of the best practices available to address ammonia in lagoon discharges that would have justified the application of a less stringent effluent limitation, the EPA has determined that this shift to an ammonia BMP approach is excepted from the backsliding prohibition.

7 MONITORING REQUIREMENTS

7.1 Self-Monitoring Requirements

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, as required in 40 CFR Part 122.41(j), unless another method is required under 40 CFR subchapters N or O.

7.1.1 Effluent (Outfall 001) Monitoring Requirements

As mentioned in section 4, flow discharging from Outfall 001 can be broadly characterized as two types: treated wastewater loading to I/P basins that discharges from Outfall 001 intermittently and subsurface flow captured in the I/P basin's collection system (no wastewater loading to I/P basins) that discharges continuously.

The 2017 permit required a monthly sampling frequency for when loading of the I/P basins had occurred. The sampling frequency from the previous permit will be continued in this permit renewal based on:

When wastewater loading of the I/P basins occurs, samples and measurements must be representative of the monitored activity (i.e., the Facility's treatment of wastewater) as required in 40 CFR 122.41(j)(1), and the monitoring type and frequency discussed in sections 7.1.1.1 thru 7.1.1.8 are required.

The 2017 permit discontinued the subsurface flow monitoring; however this permit renewal will require the Facility to monitor subsurface flow captured by the I/P basin's collection system. The purpose of this monitoring is to ensure the flow, regardless of primary source, coming out of the Facility's permitted outfall is protective of the receiving water's designated uses. There is the potential for pollutants from treated wastewater to remain in the drainage tiles even when subsurface flow is the primary source. Monitoring of subsurface flow shall be completed based on:

Months when no wastewater loading of the I/P basins occurs, one monthly sample shall be collected and analyzed for flow, pH, temperature, ammonia, and *E. coli* (Table 4). Sample type must match those described in their respective sections below.

7.1.1.1 Flow

The previous permit required the Facility to collect a grab effluent flow measurement from Outfall 001 on a monthly frequency. The Facility utilizes a v-notch weir to measure flow at Outfall 001. Grab samples are appropriate because the effluent, when flowing, is anticipated to be well mixed and have minimal variability due to the long retention times and the use of the I/P basin collection system. This monthly grab sample will be retained in the Permit.

7.1.1.2 BOD₅ and TSS

The previous permit required the Facility to monitor effluent BOD₅ and TSS on a monthly frequency using a grab sample. Grab samples are appropriate for a lagoon system that has a lengthy retention time (section 4.3) and relatively low variability. This monthly frequency will be retained in the Permit.

Note that the Facility will also have to collect influent BOD₅ and TSS and calculate the BOD₅ and TSS percent removal on a monthly frequency. See section 7.1.2 for influent collection requirements.

7.1.1.3 *E. coli*

The previous permit required the Facility to monitor effluent *E. coli* on a seasonal (May-September) monthly frequency using a grab sample. This grab sample type will be retained in the Permit, along with the monthly frequency. A grab sample type and monthly sampling frequency are appropriate because *E. coli* is not amenable to compositing and the Facility's lengthy retention time, respectively. However, the previous permit required monitoring *E. coli* seasonally, whereas this permit renewal will require the Facility to monitor *E. coli* year-round. The increase in monitoring is not associated with the reported *E. coli* limit exceedances, rather the year-round monitoring is required to ensure the primary contact use is met. Due to the absence of information on when primary contact (including cultural uses) occurs, year-round *E. coli* monitoring is the preferred approach for protecting the recreational use. This is consistent with other permits issued by the EPA in Region 8.

7.1.1.4 *Oil and grease*

The previous permit required the Facility to monitor effluent oil and grease on a weekly frequency using a visual inspection, followed by an immediate grab sample if any oil and grease were observed. The weekly frequency and grab sample type will be retained in the Permit. A visual inspection is part of basic operation and maintenance of a Facility such as this (see section 6.2 of the Permit), and a weekly visual assessment is consistent with other permits issued by the EPA in Region 8.

7.1.1.5 *Total ammonia*

The previous permit required the Facility to monitor effluent ammonia on a monthly frequency using a grab sample. This monthly frequency and grab sample type will be retained in the Permit. A monthly frequency and grab sample are appropriate for a lagoon system with a lengthy retention time and that is anticipated to have relatively constant effluent chemistry.

7.1.1.6 *Temperature*

The previous permit required the Facility to monitor effluent temperature on a monthly frequency using a grab sample. This monthly frequency and grab sample type will be retained in the Permit. A monthly frequency and grab sample are appropriate for a lagoon system with a lengthy retention time and that is anticipated to have relatively constant effluent chemistry.

7.1.1.7 *pH*

The previous permit required the Facility to monitor effluent pH on a monthly frequency using a grab sample. This monthly frequency and grab sample type will be retained in the Permit. Note that pH samples must be analyzed within 15 minutes of collection. For this reason, most facilities use an *in situ* pH meter, to measure it directly in the field. A monthly frequency and grab sample are appropriate for a lagoon system with a lengthy retention time and that is anticipated to have relatively constant effluent chemistry.

7.1.1.8 Nutrients

Due to the EPA's increased emphasis on nutrients in the nation's streams as pollutants of concern and the EPA's commitment to partnering with the Tribes to collect more comprehensive nutrient data to better define nutrient levels and seasonal variability at individual facilities, effluent monitoring requirements for nitrate/nitrite, total kjeldahl nitrogen (TKN), total nitrogen (calculated from nitrate/nitrite and TKN) and total phosphorus will be included in the Permit. This information will provide information on the concentrations being discharged and be used to inform future permitting actions. A grab sample type combined with quarterly monitoring frequency will be implemented for this permit cycle.

Table 4. Monitoring requirements for Outfall 001

Effluent Characteristic	Monitoring Frequency	Sample Type <u>a/</u>	Data Value Reported on DMR <u>b/</u>
Flow, mgd, <u>d/</u>	Monthly <u>c/</u>	Grab	Daily Max. 30-Day Avg.
BOD ₅ , mg/L	Monthly <u>c/</u>	Grab	7- Day Avg. 30-Day Avg.
BOD ₅ , percent removal	Monthly <u>c/</u>	Calculated, <u>e/</u>	30-Day Avg. % removal
TSS, mg/L	Monthly <u>c/</u>	Grab	7- Day Avg. 30-Day Avg.
TSS, percent removal	Monthly <u>c/</u>	Calculated, <u>e/</u>	30-Day Avg. % removal
<i>E. coli</i> , number/100 mL, <u>f/</u>	Monthly <u>c/</u>	Grab	Daily Max. 30-Day Avg.
Oil and grease, visual	Weekly <u>c/</u>	Visual	Narrative
Oil and grease, mg/L	Immediately upon a visible sheen or detection of floating oil in the discharge <u>c/</u>	Grab	Daily Max.
Total Ammonia Nitrogen (as N), mg/L,	Monthly <u>c/</u>	Grab	Daily Max. 30-Day Avg.
Temperature, °C	Monthly <u>c/</u>	Grab, <u>g/</u>	Daily Max. 30-Day Avg.
pH, standard units	Monthly <u>c/</u>	Grab, <u>g/</u>	Minimum/Maximum
Total Kjeldahl Nitrogen (as N), mg/L	Quarterly <u>c/</u>	Grab	Daily Max. 30-Day Avg.
Nitrate-Nitrite (as N), mg/L	Quarterly <u>c/</u>	Grab	Daily Max. 30-Day Avg.
Total Nitrogen, mg/L,	Quarterly <u>c/</u>	Calculated, <u>h/</u>	Daily Max. 30-Day Avg.

Effluent Characteristic	Monitoring Frequency	Sample Type <u>a/</u>	Data Value Reported on DMR <u>b/</u>
Total Phosphorus, mg/L	Quarterly <u>c/</u>	Grab	Daily Max. 30-Day Avg.

a/ See section 1 of the Permit for definition of terms.

b/ *Daily Max.* – Report the highest daily maximum value for the DMR period. Use a geometric mean to average more than one bacteria sample (*E. coli*) collected during a day.

7-Day Avg. – Calculate the 7-day (weekly) average for each calendar week in the DMR period that one or more samples were collected and report the highest 7-day average for the DMR period. Use a geometric mean to average more than one bacteria sample (*E. coli*) collected during a calendar week.

30-Day Avg. – Calculate and report the 30-Day average for each calendar month. Use a geometric mean to average more than one bacteria sample (*E. coli*) collected during a month.

Maximum and Minimum – Report the extreme high and low measurements for the reporting period. If only one sample was collected during the reporting period, this will be the same value for both.

Narrative – For visual observations of oil and grease, report “Yes” if the parameter was ever detected during the reporting period; report “No” if the parameter was never detected during the reporting period.

c/ Months when wastewater loading of the I/P basins occurs:

- Samples and measurements must be representative of the monitored activity (i.e., the Facility’s treatment of wastewater) as required in 40 CFR 122.41(j)(1), and the monitoring type and frequency discussed in sections 7.1.1.1 thru 7.1.1.8 are required.

Months when no wastewater loading of the I/P basins occurs:

- One monthly grab sample shall be collected and analyzed for flow, pH, temperature, ammonia, and *E. coli*. Sample type and frequency must match those described in their respective sections above.

d/ Flow measurements of effluent volume shall be made with a flow measuring device (i.e., Parshall flume, weirs, or any additional documented and verifiable flow measurement procedure) in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. The 30-day average flow rate (in million gallons per day) during the reporting period and the daily maximum flow (maximum volume discharged during a 24-hour period) shall be reported.

e/ *Percent removal* – 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 (40 CFR § 133.101(j)). On a monthly DMR reporting basis, the BOD₅ and TSS percent removal shall be calculated using the 30-day average values for influent and the 30-day average values for effluent BOD₅ and TSS reported during that calendar month.

Example percent removal calculation shown below.

Monthly DMR percent removal reported value =

$$\left(\frac{\text{Influent 30day Average Value} - \text{Effluent 30day Average Value}}{\text{Influent 30day Average Value}} \right) \times 100$$

If no discharge occurred within a monthly reporting period, no percent removal calculation is necessary for that reporting period.

- f/ For compliance with Permit limitations, the 30-day average is to be calculated using the 30-day geometric mean. The 30-day geometric mean calculation will be based on the geometric mean from the total number of samples collected during the 30-day period. The Permittee may collect more samples than the number of samples specified in the self-monitoring requirements.
- g/ This sample must be analyzed within 15 minutes of collection per 40 CFR Part 136. Typically, these samples are measured in situ using a meter that records an instantaneous measurement.
- h/ 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”.

7.1.2 Influent (001-I) Monitoring Requirements

7.1.2.1 BOD₅ and TSS

Influent monitoring will consist of a single grab sample collected monthly (minimum), although the Permittee may provide additional data if the opportunity arises. The influent sample will be analyzed for BOD₅ and TSS, and the resulting concentrations will be the basis for the calculation of percent removal. Influent samples must be collected and analyzed on the same day *and* as close in time as feasible as the **effluent** samples are collected for the respective parameters at Outfall 001. Influent samples shall be taken at a location representative of wastewater entering cell #1 of the wastewater treatment lagoon system, prior to any treatment (designated as sample location 001-I in Table 1 of the Permit). If this location is not accessible, any other accessible influent structure or location that contains representative flow from the entire service area, prior to treatment, may be used.

Table 5. Influent (001-I) Monitoring Requirements

Influent Characteristic	Monitoring Frequency	Sample Type <u>a/</u>	Data Value Reported on DMR <u>b/</u>
BOD ₅ , mg/L	Monthly, c/	Grab	30-Day Avg.
TSS, mg/L	Monthly, c/	Grab	30-Day Avg.

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

b/ 30-Day Avg. – Calculate and report the 30-Day average for each month when I/P basin loading occurs.

c/ A minimum of one BOD₅ and one TSS grab sample will be taken at least once each month on the same day and as close in time as feasible with the **effluent** sample collection and will be used in the calculation for the 30-day average for the month in which they are performed. Additional samples may be taken at the Permittee’s discretion if a large amount of variability is anticipated in the influent within a month. Any additional sample results must be included in the 30-day average influent DMR reporting for the month in which the sampling is performed. If only one sample is taken within a month, that result will be the 30-average for the month.

7.1.3 Receiving Water (001R) Monitoring Requirements

7.1.3.1 Total Ammonia, Temperature, and pH

Total ammonia is present in aqueous environments in both ionized and unionized forms. The proportion of total ammonia in the unionized form, which is the toxic form, is a function of the corresponding temperature and pH of the water. Increases in temperature and pH generally tend to lead to an increase in the unionized form of ammonia.

The intent of gathering stream data within the Permit period is to be able to evaluate potential ammonia impacts on the beneficial uses downstream of the Facility discharge. Sampling will consist of a single grab sample collected upstream of the Facility in Choteau Creek at the 395th Avenue and pedestrian bridge crossing (defined as 001R in Table 1 of the Permit). The identified sampling location is the same location as established during the 2017 permit cycle. Sampling frequency shall be monthly (minimum) for the effective period of the Permit and the data will be reported on the DMR. Sampling must be taken on the same day *and* as close in time as feasible with the **effluent** ammonia sample collected from Outfall 001. The Permittee may provide additional data if the opportunity arises. Stream monitoring shall be conducted when there is flow at 001R and access is practical and accessible (e.g., access is not impeded by snow, ice, flooding, other unsafe conditions, etc.). Any unsafe conditions that prevent sampling from happening during a given month shall be recorded. In addition, the dates and times of each sample collection shall be recorded and maintained in the Facility’s sampling records.

Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136 unless another method is required under 40 C.F.R. subchapters N or O.

Table 6. Receiving Water (001R) Monitoring Requirements

Receiving Stream Characteristic, a/	Monitoring Frequency	Sample Type b/	Data Value Reported on DMR c/
Total Ammonia Nitrogen (as N), mg/L	Monthly	Grab	Daily Max.
Temperature, °C	Monthly	Grab, d/	Minimum Maximum
pH, standard units	Monthly	Grab, d/	Daily Max.

a/ Receiving stream monitoring will occur monthly and will consist of a single grab sample taken at a location identified in Table 1 of the Permit

- b/ See Definitions, Section 1 of the Permit, for definition of terms.
- c/ *Daily Max.* – Report the highest daily maximum value for the DMR period. Use a geometric mean to average more than one bacteria sample (*E. coli*) collected during a day.
Maximum and Minimum – Report the extreme high and low measurements for the reporting period. If only one sample was collected during the reporting period, this will be the same value for both.
- d/ Temperature and pH samples shall be collected at the same time as sampling for the total ammonia. Temperature and pH measurements must be analyzed within fifteen (15) minutes of sampling.

8 SPECIAL CONDITIONS

Special conditions in NPDES permits supplement numeric effluent limitations and are requirements the Permittee must undertake. They are designed to reduce the overall quantity of pollutants being discharged and allow for the collection of information that may be used to inform future permitting actions.

8.1 Ammonia Best Management Practice (BMP) Management Plan

The objective of an ammonia Best Management Practice (BMP) management plan is to minimize ammonia discharges for the protection of aquatic life in the receiving waters downstream of the Facility's effluent. Controlling for ammonia will be accomplished by maximizing ammonia treatment, as well as the minimization of ammonia generated within the waste stabilization ponds. CWA section 402(a)(1) and (2) and the NPDES regulations at 40 CFR 122.44(k)(4) authorize BMPs to control or abate the discharge of pollutants when, "[t]he practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA." In this instance, BMPs will be used to reduce ammonia in the Facility's discharge and will serve to protect aquatic life in the receiving water. This BMP approach is consistent with the intent of Section 101(a)(2) of the Clean Water Act, which establishes a national goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." 33 U.S.C. § 1251(a)(2).

Based on EPA's 1993 *Guidance Manual for Developing Best Management Practices (BMP)*, (EPA 833-B-93-004. U.S. Environmental Protection Agency, Office of Water, Washington, DC), common general BMPs include good housekeeping, preventive maintenance, inspections, employee training, and recordkeeping and reporting. 40 CFR 122.2 includes the following in the definition of BMPs:

- Schedules of activities,
- Prohibitions of practices,
- Maintenance procedures,
- Treatment requirements, and
- Operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage areas.

When, as here, EPA requires a permittee to prepare a BMP management plan, the permittee must determine appropriate BMPs on the basis of circumstances at its facility. Here, it will be the Permittee's responsibility to develop, implement, and evaluate the successes or shortfalls of its BMP plan to reduce ammonia in the Facility's discharge.

To ensure that implementation of the ammonia BMP management plan requirement results in actual reductions in ammonia in the Facility's discharge, EPA has included several related requirements. Broadly speaking, these requirements establish an iterative process of evaluation, planning, training, implementation, assessment and revision. The EPA expects that the Permittee will be able to use reputable scientific and engineering studies, to guide its selection of BMPs. Regardless of the information sources used, the Permittee must determine and document what processes and procedures would be the most appropriate for addressing ammonia discharges from the Facility.

The BMP plan must include an implementation schedule, which will provide the Permittee with a clear set of next steps and schedule in which to take them. The Permittee is also being required to train its existing operator and staff on the proper installation and maintenance of selected BMPs, and to give such training to all new employees as well. This training component will ensure that the people working at the Facility have the knowledge, skills and ability necessary to ensure the ongoing effectiveness of the selected BMPs. Finally, the plan requires evaluation and amendment of the BMP plan if it proves ineffective. EPA anticipates that this assessment will be ongoing and will be tied to the Permittee's review of ammonia monitoring data. For example, if the Permittee has implemented several BMPs it expects to reduce ammonia concentrations, and DMR data produced subsequent to those changes shows no change or an increase in ammonia concentrations, the Permittee will be required to revise the plan. The EPA expects the Permittee to review its BMP choices to identify potential shortcomings or failure points, and to develop revised or new BMPs to improve their performance. This iterative process will be key to ensuring that instead of a "set and forget" approach to BMPs, the Permittee is actively managing its facility to protect water quality.

In addition to the implementation of BMPs, ammonia monitoring and reporting will be required on a monthly basis (in alignment with the frequencies, reporting and sampling requirements in the Permit) to evaluate the effectiveness of optimization BMPs and develop future permitting requirements for ammonia.

Section 5.1 of the Permit contains the ammonia BMP plan requirements.

9 REPORTING REQUIREMENTS

Reporting requirements are based on requirements in 40 CFR §§ 122.44, 122.48, and Parts 3 and 127. A discharge monitoring report (DMR) frequency of monthly was chosen, because the Facility has historically discharged at least once per month.

With the effective date of the Permit, the Permittee must electronically report all monitoring data into the discharge monitoring reports (DMR) on a monthly frequency using NetDMR. If no discharge occurs during the entire monitoring period, it shall be reported on the DMR Form for Outfall 001 that no discharge occurred. If there is no flow at monitoring location 001R, or

access is impeded at monitoring locations 001R or 001-I by snow, ice, flooding, other unsafe conditions, etc.; the information shall be reported on the DMR for 001R and/or 001-I using the most applicable NetDMR no data indicator code (i.e., NODI code) that is available, to identify the circumstances of the situation.

Electronic submissions by the Permittee must be sent to the EPA Region 8 no later than the 28th of the month following the completed compliance monitoring period. The Permittee must sign and certify all electronic submissions in accordance with the signatory requirements of the Permit. NetDMR is accessed from the internet at https://usepa.servicenow.com/oeca_icis?id=netdmr_homepage.

In addition, the Permittee must submit a copy of the DMR to the Yankton Sioux Tribe. Currently, the Permittee may submit a copy to the Yankton Sioux Tribe by one of three ways:

1. A paper copy may be mailed.
2. The email address for Yankton Sioux Tribe may be added to the electronic submittal through NetDMR, or
3. The Permittee may provide Yankton Sioux Tribe viewing rights through NetDMR.

The DMRs are due monthly, by the dates listed below. DMRs shall not be submitted until the compliance monitoring period is complete.

Table 7. DMR Due Dates

Compliance Monitoring Period	Due Date
January	February 28 th
February	March 28 th
March	April 28 th
April	May 28 th
May	June 28 th
June	July 28 th
July	August 28 th
August	September 28 th
September	October 28 th
October	November 28 th
November	December 28 th
December	January 28 th

The permittee must sign and certify all electronic submissions in accordance with the requirements of Part 9.7 of the Permit (“Signatory Requirements”).

10 COMPLIANCE RESPONSIBILITIES AND GENERAL REQUIREMENTS

10.1 Inspection Requirements

On a weekly basis, unless otherwise modified in writing by the EPA, the Permittee shall inspect its treatment facility. The Permittee shall document the inspection, as required by the

Permit (see section 6.2 of the Permit). Inspections are required to ensure that the Facility is operating properly. The EPA typically requires a weekly inspection for lagoon facilities.

Regular inspections will also help to ensure proper O&M in accordance with 40 CFR 122.41(e). In addition to checking the discharge status, the objectives of the inspections include checking for specified items that will require corrective maintenance (e.g., leakage through the dikes, animal burrows in the dike, excessive erosion of the dikes, rooted plants growing in the water, and the vegetation growth on the dikes need mowing), and determining if proper operation and maintenance procedures are being undertaken. An example form for lagoon inspections is provided in Appendix A of the Permit to support Facility operators with inspection requirements. These forms may be printed, completed and maintained in the inspection notebook or maintained electronically with inspection logs in accordance with proper record-keeping procedures.

Documentation shall be recorded in notebooks/logbooks using permanent 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. The records of inspections are to be retained on-site at the Facility or at a nearby office for the Facility.

10.2 Operation and Maintenance

40 CFR § 122.41(e) requires permittees to properly operate and maintain at all times, 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. In addition to an operation and maintenance plan, regular facility inspections, an asset management plan (AMP), and consideration of staff and funding resources are important aspects of proper operation and maintenance. Asset management planning provides a framework for setting and operating quality assurance procedures and helps to ensure the Permittee has sufficient financial and technical resources to continually maintain a targeted level of service. Consideration of staff and funding provide the Permittee with the necessary resources to operate and maintain a well-functioning facility.

An AMP can be used to forecast relevant needs and costs associated with long-term compliance concerns, particularly in communities that could be impacted by emerging or increased flooding risk, risk of wildfires, or drought risk. While flooding and wildfires can lead to damage to critical infrastructure, droughts could reduce flows in receiving waters resulting in more stringent permit limits in the future. Long-term construction, additional operation and maintenance, and funding plans for upgrading or relocating critical infrastructure may be necessary to mitigate these concerns. Facilities may also consider optimizing their energy efficiency, which can yield substantial economic benefits and help cut down on associated emissions.

Operation and maintenance requirements have been established in section 6.3 of the Permit to help ensure compliance with the provisions of 40 CFR 122.41(e).

10.3 Industrial Waste Management

The Facility is a POTW as defined in 40 CFR § 403.3(q). The Permit contains requirements for the Permittee to protect the POTW from pollutants which would inhibit, interfere with, or otherwise be incompatible with operation of the treatment works including interference with the use or disposal of municipal sludge. Pass through and interference are defined in 40 CFR §§ 403.3(p), (k), respectively.

The Facility is required to conduct an Industrial Waste Survey (IWS), as described in the Permit, **within one year of the Permit effective date**. Requirements for the IWS are outlined in section 8.9 (Industrial Waste Management) of the Permit.

An IWS is required to ensure the POTW operators are aware of the nature of discharges received by the Facility and any non-domestic waste being received from the service area that could impact the collection system or wastewater treatment lagoon facility. The IWS must be regularly maintained by the Permittee to ensure that the information remains current.

Further requirements for controlling discharges from Industrial Users into the wastewater treatment lagoon system can be found in section 8.9 (Industrial Waste Management) of the Permit.

10.4 Per- and Polyfluoroalkyl Substances (PFAS) – Justification for No Monitoring

Based on the EPA's December 5, 2022, guidance memorandum, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs" the applicability of PFAS monitoring is recommended for industry categories known or suspected to discharge PFAS as identified in the PFAS Strategic Roadmap. These include industry categories such as the following: organic chemicals, plastics & synthetic fibers (OCPSF); metal finishing; electroplating; electric and electronic components; landfills; pulp, paper and paperboard; leather tanning & finishing; plastics molding & forming; textile mills; paint formulating, and airports. Additionally, the memorandum indicates PFAS monitoring and/or BMPs could be appropriate for remediation sites, chemical manufacturing not covered by OCPSF, military bases, and PFAS-containing firefighting foams for stormwater permits. The Facility is not identified as one of the aforementioned industries, is not known to receive wastes from the aforementioned industries, and is not known to use PFAS-containing firefighting foams. Therefore, no PFAS monitoring or PFAS-related BMP implementation has been included in this Permit.

If sources of PFAS or PFAS containing chemicals are identified in the Facility's collection system or the Facility's discharge, the Permit may be reopened (per section 9.15.6, Reopener Provision, of the Permit) to include PFAS monitoring and/or BMPs to confirm and/or address PFAS discharge concerns in alignment with the recommendations in the EPA's December 5, 2022 guidance memorandum, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs".

11 ENDANGERED SPECIES CONSIDERATIONS

The Endangered Species Act of 1973 requires all Federal Agencies to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any Federal action carried out by the Agency is not likely to jeopardize the continued existence of any endangered species or threatened species (together, “listed” species), or result in the adverse modification or destruction of habitat of such species that is designated by the FWS as critical (“critical habitat”). See 16 U.S.C. § 1536(a)(2), 50 CFR Part 402. When a Federal agency’s action “may affect” a protected species, that agency is required to consult with the FWS (formal or informal) (50 CFR § 402.14(a)).

The U.S. Fish and Wildlife Information for Planning and Conservation (IPaC) website (<https://ecos.fws.gov/ipac/>) was originally accessed on February 13, 2023 to determine federally-listed Endangered, Threatened, Proposed and Candidate Species for the area near the Facility. The IPaC Trust Resource Report findings are provided below. The action area mapped in the IPaC search covers the footprint of each of the lagoon cells and I/P basins, approximately 2.1 square miles, as well as the receiving water and Choteau Creek, measured approximately 11.2 stream miles downstream of Outfall 001. The IPaC report was updated on May 23, 2024, and there was no change to the species list or critical habitat from the original report generated on February 13, 2023.

Table 8. IPaC Federally listed Threatened and Endangered Species

Species	Scientific Name	Species Status	Designated Critical Habitat
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered	No Critical habitat has been designated for this species.
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered	No Critical habitat has been designated for this species.
Piping Plover	<i>Charadrius melodus</i>	Threatened	“There is final critical habitat for this species (published in the Federal Register on May 19, 2009). Your location is outside the critical habitat.”
Red Knot	<i>Calidris canutus rufa</i>	Threatened	“There is final critical habitat for this species (published in the Federal Register on May 13, 2023). Your location is outside the critical habitat.”
Whooping Crane	<i>Grus americana</i>	Endangered	“There is final critical habitat for this species (published in the Federal Register on May 15, 1978). Your location is outside the critical habitat.”
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered	No Critical habitat has been designated for this species.

Species	Scientific Name	Species Status	Designated Critical Habitat
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	No Critical habitat has been designated for this species.
Western Prairie Fringed Orchid	<i>Platanthera praeclara</i>	Threatened	No Critical habitat has been designated for this species.

11.1 Biological Evaluation

The proposed action is a renewal of an administratively extended discharge permit at a wastewater lagoon. This permit represents the fourth renewal for the Facility, and there are no significant upgrades nor modifications anticipated under this proposed action.

The only species provided in the IPaC report with established critical habitat are Piping Plover, Red Knot, and Whooping Crane. However, there is no critical habitat located in the action area, so critical habitat will not be discussed further.

On February 14, 2024, the EPA and the South Dakota Fish and Wildlife Service (FWS) Field Office’s Contaminant Specialist, Matt Schwarz, had a technical assistance meeting to discuss the NPDES permit renewal and the species provided in the IPaC report. During this meeting it was determined that there is a lack of exposure to the Facility’s effluent for the Northern Long-eared Bat, Tricolored Bat, Red Knot, Whooping Crane, Monarch Butterfly, and Western Prairie Fringed Orchid. Due to the lack of exposure for those six species, a “No Effect” determination was made for the Facility’s discharge.

Also, during the February 14, 2024, call with Matt Schwarz, a “Not Likely to Adversely Affect (NLAA)” determination was made for the remaining two species in the IPaC report, the Piping Plover and the Pallid Sturgeon. The NLAA determination was made because while both species are reported in Charles Mix County, both the Piping Plover and the Pallid Sturgeon are more likely to be found approximately 40 stream miles downstream (and still within Charles Mix County) along the banks of the Missouri River or in the Missouri River, respectively. An exposure to the Facility’s effluent to the Piping Plover and/or the Pallid Sturgeon *may* occur, but due to the distance downstream where these species are more likely to be present, it has been determined that an exposure to the Facility’s effluent is “discountable” (i.e., not likely to happen) and “insignificant” (i.e., exposure would not likely reach the scale of “take”).

Based on the IPaC report and the technical assistance meeting with Matt Schwarz on February 14, 2024, the EPA determined the permitting action is "Not Likely to Adversely Affect" the Piping Plover and Pallid Sturgeon and will have “No Effect” on the Northern Long-eared Bat, Tricolored Bat, Red Knot, Whooping Crane, Monarch Butterfly, and Western Prairie Fringed Orchid.

Before going to public notice, a copy of the draft Permit and SoB was sent to the FWS requesting concurrence with the EPA’s finding that reissuance of this NPDES Permit is "Not Likely to Adversely Affect" Piping Plover and/or Pallid Sturgeon.

12 NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The first step in this analysis is to consider whether the undertaking has the potential to affect historic properties, if any are present. See 36 CFR 800.3(a)(1). Permit renewals where there is no new construction are generally not the type of action with the potential to cause effects on historic properties.

During the public comment period, the Tribal Historic Preservation Office (THPO) of the Yankton Sioux Tribe will be notified as an interested party to ensure they are aware of the anticipated Permit issuance.

13 401 CERTIFICATION CONDITIONS

At the time of the Permit reissuance, the EPA was the CWA Section 401 certifying authority for the Permit, because the Yankton Sioux Tribe had not received authorization to implement Section 303(c) of the CWA. The EPA is waiving § 401 certification.

14 MISCELLANEOUS

The effective date of the Permit and the Permit expiration date will be determined upon issuance of the Permit. The intention is to issue the Permit for a period not to exceed 5 years.

Permit drafted by Dan Guth, U.S. EPA, 303-312-6121, January 2024

ADDENDUM

AGENCY CONSULTATIONS

On June 6, 2024, the FWS concurred with EPA's preliminary conclusion that the Permit reissuance is not likely to adversely affect the Piping Plover and Pallid Sturgeon.

On May 31, 2024, an offer for consultation was provided to the Tribe's Tribal Historic Preservation Office (THPO). The Tribe's THPO did not comment on EPA's preliminary determination that the Permit reissuance will not impact any historic properties.

NEIGHBORING JURISDICTION

The EPA conducted a neighboring jurisdiction analysis of water resources located downstream from the Facility and outside the external boundaries of the Yankton Sioux Reservation, in accordance with 40 CFR § 121.13. On July 10, 2024, the EPA permit signatory made a negative "may affect" determination for the authorized discharges from the Facility in the neighboring jurisdiction of South Dakota. The EPA documented the factors considered in this determination in the administrative record for this Permit.

PUBLIC NOTICE AND RESPONSE TO COMMENTS

The Permit and statement of basis, including the CWA Section 401 certification, were public noticed on EPA's website on May 31, 2024. The EPA received comments from South Dakota's Department of Agriculture and Natural Resources (DANR). The comments were grouped by document type (i.e., Statement of Basis and Permit).

1. South Dakota DANR comments on the draft SoB:

1.1 Comment:

"The 2020 census indicates 1,490 people living in Wagner, but the application per the SOB indicates 2,265 people? Did EPA attempt to verify the population numbers or the appropriateness of the current treatment system for the population being served?"

1.1 Response:

Thank you for the comment on the community size served by the Facility. In the Facility's permit renewal application, the reported population served includes both the City of Wagner population and tribal housing units. The discrepancy between the census reported population and the application reported population is attributed to the tribal housing units.

The population served by a treatment facility is one component for determining whether a facility is categorized as a "major" vs "minor" treatment facility. However, the threshold value for which a facility is typically categorized as a "major" facility is 10,000 residents, and since the reported population size is well below 10,000 residents there is little concern over the discrepancy in the reported population.

In regard to the comment on the appropriateness of the current treatment system, the EPA does not require any particular type of treatment system so long as the permitted facility meets permit limits. A facility may need to consider alternative treatment systems as part of compliance schedule to meet permit limits, but this is not the case with the Permittee.

No changes were made to the final Permit.

1.2 Comment:

“Page 9 of 28, section 6.2: There are no EPA approved WQS under Section 303© [sic] for the receiving waters; if the Baseline Water Quality Standards Rule is finalized, will this permit be re-opened to accommodate the standards EPA applies to these receiving waters?”

1.2 Response:

The EPA has standard reopener provisions in section 9.15 of the Permit. The reopener provisions cover six conditions that would allow for a permit to be reopened and modified, including a scenario where “the water quality standards for a receiving water(s) are modified in such a manner as to require different effluent limitations that contained in this Permit.”

Depending on the final outcome and implementation of the Tribal Baseline Water Quality Standards Rule, this permit could be reviewed and reopened based on the Permit’s reopener provisions.

No changes were made to the final Permit.

1.3 Comment:

“The EPA assumes, absent data to the contrary, that the WQS for these receiving waters are aquatic life use and recreation, did EPA make any attempts to verify the receiving waters have no connection to waters used for drinking water?”

1.3 Response:

The EPA reviews the receiving waters to determine the appropriateness of aquatic life, human health, and recreation designated uses. Based on our review, we were not able to locate any drinking water intakes downstream of the Facility. In addition to the review of drinking water intakes, the EPA also reviewed the designated uses of Choteau Creek as assigned by South Dakota in the segment extending from Wagner to Lewis and Clark Lake. South Dakota assigned Choteau Creek uses of warmwater semi-permanent fish life propagation, irrigation waters, limited contact recreation, and fish and wildlife propagation, recreation, and stock watering. Based on this information, it was determined that aquatic life and recreation designated uses would be applied in the Permit.

No changes were made to the final Permit.

1.4 Comment:

“Monitoring of receiving waters as described on page 19 section 7.1.3 makes sense, but why only an upstream sample? The bridges on 396th Ave and 297th St/SD46 are suitable locations to collect downstream samples. The downstream samples would provide valuable information needed to determine if ammonia BMPs alone are sufficient or if numeric standards should be retained.”

1.4 Response:

We appreciate the suggestion to include an additional monitoring location downstream of the Facility and agree these locations would make convenient monitoring locations if the downstream sample were required. The EPA believes that ammonia concentrations measured in the effluent alone is the appropriate measure for whether the BMPs are effectively reducing ammonia in the discharge. A sample collected downstream could be influenced by external factors outside the Facility’s control and should not be used to assess the effectiveness of the BMPs. Additionally, the Facility’s effluent limits are required at the “end of pipe.” Downstream concentrations of a pollutant, while representative of the pollutant exposure levels at that location, were not considered for the derivation of effluent limits for this Facility since there is no dilution allowance or mixing zone in the Permit.

No changes were made to the final Permit.

1.5 Comment:

“Numeric limits for ammonia should be retained until sufficient up-stream and down-stream data is collected to verify ammonia concentrations downstream of the WWTP do not have a significant negative impact on aquatic life or recreation.”

1.5 Response:

The BMPs included in the Permit, while not a numeric limit, similarly serve to carry out the purpose and intent of the CWA to control ammonia as outlined in the SoB. The Tribe does not currently have EPA-approved water quality standards for ammonia and CWA section 402(a)(1) and (2) and the NPDES regulations at 40 CFR 122.44(k)(4) authorize BMPs to control or abate the discharge of pollutants when, “[t]he practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.”

The primary purpose of the BMPs management plan is to require the Facility to establish measures to reduce ammonia concentrations in the discharge from the current levels. These requirements, as discussed in section 5.1 of the Permit, will result in a proactive approach to reducing ammonia concentrations. Additionally, the BMPs must be evaluated and reevaluated for ineffectiveness. If the BMP management plan is determined to be ineffective, the plan must be modified to incorporate revised BMP requirements.

Through ongoing monitoring of ammonia in the effluent, we will know whether ammonia concentrations have the potential to impact aquatic life or recreation. This monitoring,

which requires additional annual evaluations by the Facility, will provide information on the factors that may be contributing to any periodic elevated ammonia concentrations. The replacement of numeric limits with the BMP management plan is not an allowance to discharge ammonia unchecked. Rather, it is an increased monitoring effort that will look not only at the ammonia concentrations but other contributing factors, with the intent of reducing ammonia systematically and not just minimizing exceedances.

No changes were made to the final Permit.

2. South Dakota DANR comments on the draft Permit:

2.1 Comment:

“On page 8 of 47, Table 1 should be expanded to include a Monitoring Point downstream of the WWTP. At or near 43.09270, -98.26826 (396th Ave Bridge) or 43.08157,-98.26246 (297th St Bridge) would be logical locations.”

2.1 Response:

Thank you for the suggestion of adding a downstream monitoring location. We agree that these locations would be convenient downstream monitoring locations; however, it was determined that a downstream location did not need to be included in the Permit. As stated previously, the Facility does not have a dilution allowance or mixing zone in the Permit, so the downstream concentrations are not a factor for establishing effluent limits.

No changes were made to the final Permit.

Comment:

“The monthly requirements specified for Ammonia as N found on page 5 of 19 (Section 1.3.1) of the current permit should be retained until sufficient downstream data supports the exchange of these limits for BMPs.”

2.2 Response:

Please see the response to comment 1.5.

No changes were made to the final Permit.

2.3 Comment:

“On page 12 of 47 of the draft permit, section 4.3 should be expanded to include a monitoring point in the receiving stream downstream of the WWTP as previously suggested.”

2.3 Response:

As mentioned in the response to comment 1.4, a downstream site would not provide information that is relevant for the Facility or establishing effluent limitations. The upstream

site was included to monitor for ammonia concentrations to establish background ammonia concentrations, and pH and temperature monitoring were added for calculating any applicable ammonia criteria in future permits. As for the effects of ammonia downstream of the Facility, the effluent ammonia concentrations are the only information that is needed, since there is no dilution allowance or mixing zone.

No changes were made to the final Permit:

2.4 Comment:

“Page 13 of 47, Section 5.1 pertaining to an Ammonia BMP Plan is premature and should be removed pending reinstatement of numeric ammonia limits. This BMP plan and other subsequent requirements as detailed in Section 5 of the draft permit should only be considered after sufficient upstream and downstream data has been collected and analyzed verifying the documented ammonia exceedances were unique events and have not had a negative impact on aquatic life in the receiving waters.”

2.4 Response:

Please see the response to comments 1.4 and 1.5 for the rationale for why a downstream monitoring location is not needed and for implementing the ammonia BMP management plan in place of the ammonia limits, respectively. Regarding the circumstances of the “documented ammonia exceedances” referenced in the comment, the EPA communicated with the Facility immediately following each of the exceedances and it was determined that the exceedances were unique events attributed to heavy rainfall or snowmelt that resulted in inflow and infiltration issues combined with flooding. The Facility notified the EPA of these events and provided appropriate reporting as required by their permit for these types of circumstances that occurred outside of the Facility’s normal operating conditions. Additionally, the draft and final Permit contain a requirement in Section 6.3.3 for the Permittee to develop, maintain, and implement an asset management plan (AMP) to cover the treatment facility and collection system. The AMP is required to identify emerging or increased threats to the Facility resulting from long-term compliance concerns, such as flooding risk.

No changes were made to the final Permit.