STATEMENT OF BASIS FOR THE ROSEBUD HOTEL AND CASINO NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEMS (NPDES) PERMIT SD-0034584

April 2017

Purpose of this Statement of Basis

This statement of basis (SoB) is for the re-issuance of the NPDES Permit to the Rosebud Hotel and Casino. The Permit establishes effluent discharge limitations for discharge of water from the wastewater treatment plant (WWTP). The SoB explains the nature of the discharges, and the Environmental Protection Agency's (EPA) decisions for limiting the pollutants in the wastewater, as well as the regulatory and technical basis for these decisions.

The EPA Region 8 is the Permitting Authority for facilities located in Indian country, as defined in 18 U.S.C. § 1151, within Region 8 states and supports implementation of federal environmental laws consistent with the federal trust responsibility, the government-to-government relationship, and the EPA's 1984 Indian Policy.

Summary

The facility is located along the west side of U.S. Highway 83 immediately north of the Nebraska-South Dakota state line in Todd County, South Dakota in the northeast ¼ of Section 23, Township 35 North, Range 28 West, and is entirely within the boundaries of the Rosebud Indian Reservation.

The WWTP treats the sanitary wastes from the Rosebud Casino/Annex, hotel, and adjacent fuel plaza. All treated wastewater from the WWTP discharges to the Rock Creek. The discharge outfall is located at latitude 43.000556 N, longitude 100.576389 W.

Contents

Introduction

The Federal Clean Water Act (CWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the CWA is the issuance of NPDES permit with technology-based limitations and/or water quality-based limitations.

The EPA's NPDES permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

The EPA establishes secondary treatment standards for publicly owned treatment works (POTWs), which are minimum, technology-based requirements for municipal wastewater treatment plants. These standards are reflected in terms of five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH limits. The Rosebud Hotel and Casino has similar characteristics as a POTW and is required to maintain a NPDES permit.

Facility Information

Facility Information	
Permittee	Rosebud Hotel and Casino
Facility Name and Address	Rosebud Hotel and Casino WWTP HC 14 Box 135 Valentine, Nebraska 69201
Contact at Facility	Pete Broken Leg, Compliance Officer Rosebud Hotel and Casino HC 14 Box 135 (605) 653-3450 Email: petebl@rosebud-casino.com
Responsible Official	Annisa Bordeaux, General Manager Rosebud Hotel and Casino HC 14 Box 135 Valentine, Nebraska 69201 (605) 653-3434 Email: abordeaux@rosebud-casino.com
Type of Permit	Minor POTW, Indian Country (Renewal)

Summary of Specific Changes from the Previous Permit

1. The effluent limitations on *E. coli* are based on EPA's 2012 Recreational Water Quality Criteria recommendations for primary contact recreation with 30 day average limit of 126 cfu/100 mL and daily maximum limit of 410 cfu/100 mL.
2. Monitoring for total nitrogen and total phosphorus will be required with this permit issuance to determine if there is reasonable potential to cause, or contributes to an in-stream excursion above the water quality standards.

Facility Description

The Rosebud Hotel and Casino consists of a hotel, casino, restaurant, and fuel plaza. Based on the permit renewal application, the Fuel Plaza was built in 2005 – 2006. It sells gasoline and diesel fuel. The Fuel Plaza also has a convenience store that sells sundry items. It does not have a car or truck wash. Wastewater is piped to the WWTP.

The Quality Inn hotel has 60 guest rooms, two small meeting rooms (less than 30 person capacity each), and a small indoor pool (approximately 8500 – 9000 gallon capacity). Before the pool is drained for maintenance, the water is tested for the total chlorine levels. Sodium Thiosulfate is added until all chlorine is neutralized before being drained to the WWTP.

In the Casino, there are about 100-150 employees. The Bingo Hall/Entertainment Center is used for gaming, bingo games, meetings/conventions, and indoor concerts. It has a maximum capacity of 500 persons and has two large restrooms. Wastewater from these restrooms are piped to the WWTP.

The deli and the restaurant serves customers on a daily basis. The kitchen in both restaurant and deli are connected to a cement vault grease trap, in line with the sewer system.

The grease trap is monitored once per week by the wastewater operator who is certified from the State of South Dakota. The grease trap is pumped out as needed by a contractor and hauled off site.

The casino gaming floor has 4 restrooms. The wastewater from these restrooms is piped to the WWTP. The gaming floor has maximum capacity of 810 persons.

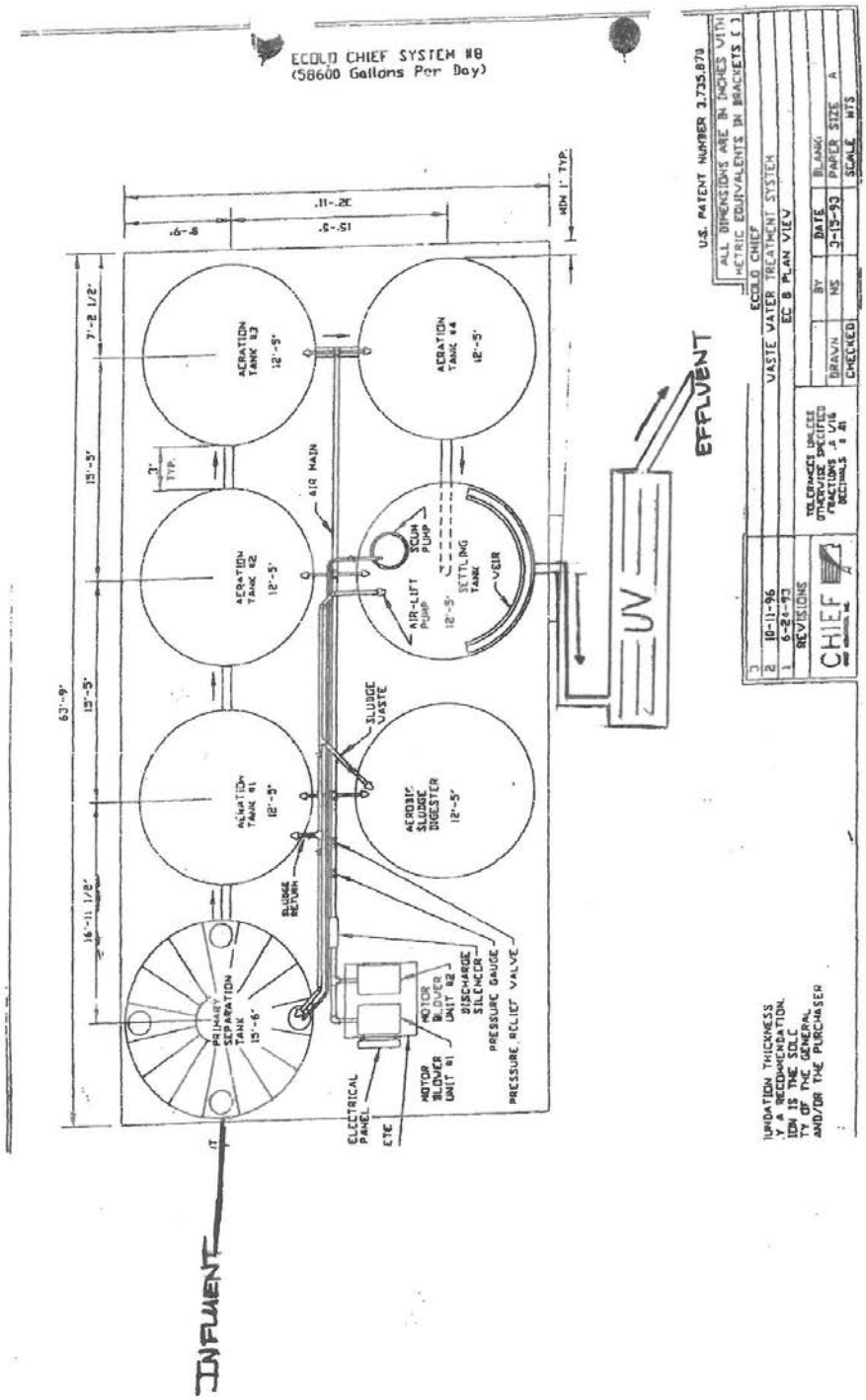
The Annex serves as the administration offices for the Casino. It is served by two restrooms and the wastewater is also piped to the WWTP.

The WWTP consists of a package plant. This application’s supplementary information outlines the current package plant as an Ecolo-Chief model of Chief Industries, Inc. and consists of a primary settling tank, four sequential high rate aeration tanks, a final settling tank, an aerobic digester for waste sludge, and a UV disinfection system. The average design flow of the system is 58,000 gallons per day (gpd) with a peak flow design of 87,900 gpd.

The following exhibits provide the site layout and plant schematic of the treatment facility and wastewater collection system:

Rosebud Casino & Hotel

ROSEBUD CASINO
WASTEWATER TREATMENT PLANT SCHEMATIC



Receiving Waters

An examination of the USGS topographic mapping of the area indicates that the discharge from the WWTP would flow in a channel thru the natural wetland, northwards towards an unnamed intermittent tributary of Rock Creek if the water did not evaporate and/or soak into the ground first. It appears to be approximately 7 stream miles from the point of discharge to the confluence with Rock Creek, approximately 25 stream miles from the point of discharge to the confluence of Rock Creek and Keya Paha River and approximately another 10 stream miles from the Rock Creek/Keya River confluence to the boundary of the Rosebud Indian Reservation.

Monitoring Data

Below is a summary of the discharge monitoring report (DMR) data reported from 10/31/2011 through 7/31/2016. Based on the DMR data below, it appears that the effluent limitations on BOD_5 have been exceeded in two reporting periods, TSS in nine reporting periods, and *E. coli* in one reporting period. Also noted with respect to the provided monitoring data, the flow at times significantly exceeds the average design flow (58,000 gpd) and peak design flow (87,900 gpd).

Summary of Self - Monitoring Results for Outfall 001						
Effluent Characteristic	30-Day Average		7-Day Average		Effluent Limitation	
	Min.	Max.	Min.	Max.	30-Day	7-Day
Flow (gpd)	6993	143333	-	-	-	-
BOD_5, mg/L	2	34	1.4	34	30	45
TSS (mg/L)	3	91	0.45	175	30	45
E. coli, colonies/100 mL	3	703	3	703	235 (one time grab)	126 (5 day geometric mean)
pH	-		6.3	8.3	Not less than 6.0 nor greater than 9.0 at any time	
Oil and Grease (mg/L)	0				No sheen & 10 mg/L max.	
Ammonia, as N, mg/L	Quarterly Min. = 0 and Max. = 16.6					

Additional monitoring data are as follows:

Characteristic	Frequency	Avg.	Max.
Influent BOD_5, mg/L	Monthly	587	2550
Influent Total Suspended Solids, mg/L	3 times per week	964	5800
Dissolved Oxygen (Aeration tanks 1-4), mg/L	Weekly	3.11	7.56
Solids depth in primary separation tank, inches	Weekly	30	48
Solids depth in final clarifier/settling tank, inches	Weekly	14	30
Solids depth in aerobic digester, inches	Weekly	14	48

Water Quality Considerations

The Rosebud Sioux Tribe does not have treatment as state (TAS) for water quality standards (WQS) under CWA § 518. Furthermore, the Tribe has not developed WQS for the Rosebud Indian Reservation. In the absence of water quality standards on the reservation, the EPA needs to consider protecting beneficial uses of the receiving waters. Section 101(a)(2) of the Clean Water Act states "it 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 be achieved by July 1, 1983". Therefore, the beneficial uses of the receiving waters will be considered to include aquatic life and recreation.

Effluent Limitations

Technology Base Effluent Limits

The WWTP does not meet the definition of a POTW as defined in 40 CFR §403.3. Nonetheless, the waste treated and type of treatment are sufficiently similar such that in the professional judgment of the permit writer, the secondary treatment standards for POTWs in 40 CFR part 133 should be applied. Also, an effluent limit has been applied for oil and grease due to the presence of a restaurant and grease trap. The limit for oil and grease is based on a combination of the EPA Region 8 professional judgement and protecting the receiving waters from a visible sheen or floating oil. In addition, 40 CFR part 122.44(l)(1) requires that for the renewal of a permit, the effluent limitations must be as stringent as in the previous permit unless one or more exceptions enumerated in the regulation apply. None of the specified exceptions apply in this situation, so the oil and grease limit will remain.

Water Quality Based Effluent Limits

A pollutant of concern possibly contained within this wastewater discharge affecting water quality is the bacteria *E. coli*. There exists a potential for recreational contact with the effluent as it is conveyed away from the WWTP in the unnamed tributary to Rock Creek. The previous permit required limits and monitoring for *E. coli* levels in the effluent for the protection of recreation uses. They were based on the old EPA numeric human health criteria for bacteria for the protection of primary contact recreational uses. The previous primary contact values for *E. coli* were 235 colonies/100 mL (one time grab) and 126 colonies/100 mL (5 day geometric mean). For this Permit renewal, the effluent limitations on *E. coli* are based on the latest EPA's 2012 recommendations for primary contact recreation with 30 day average limit of 126 cfu/100 mL and daily maximum limit of 410 cfu/100 mL.

The effluent limitations are given below:

Effluent Characteristic	Effluent Limitation		
	30-Day Average a/	7-Day Average a/	Daily Maximum a/
BOD_5, mg/L b/	30	45	N/A
Total Suspended Solids, mg/L b/	30	45	N/A
E. coli, cfu/100mL c/	126	---	410
The pH of the discharge shall not be less than 6.0 or greater than 9.0 at any time.			
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. d/			

There shall be no discharge of visible floating solids or foam in other than trace amounts. e/

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

b/ The limits for BOD_5, total suspended solids, and pH are based on National Secondary treatment standards (40 CFR §133.102).

Percentage Removal Requirements (TSS and BOD_5 Limitation): In addition to the concentration limits for total suspended solids and BOD_5 indicated above, the arithmetic mean of the concentration for effluent samples collected in a 30-day consecutive period shall not exceed 15 percent of the arithmetic mean of the concentration for influent samples collected at approximately the same times during the same period (85 percent removal).

c/ Per 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 Permittee may collect more samples than the monthly samples specified in the self-monitoring requirements. The maximum limitation in any sample will be 410/100 mL. The above effluent limitations apply at the end of the discharge pipe. A mixing zone will not be allowed for *E. coli*.

d/ The limit for oil and grease is based on a combination of the EPA Region 8 professional judgement and protecting the receiving waters from a visible sheen or floating oil.

e/ The limit for floating solids and foam is based on a combination of the EPA Region 8 professional judgement and protecting the receiving waters from visible floating solids or foam.

Self-Monitoring Requirements – Outfall 001

To verify the efficiency of the treatment plant as designed, additional monitoring data is being requested to confirm the Percent Removal of BOD_5 and Total Suspended Solids. BOD_5 and TSS influent monitoring shall occur prior to entering the Primary Separation Tank (or before all return lines) and then compared to the effluent data to determine the level of removal. The goal is for 85% removal.

Sampling and test procedures for pollutants listed in this part shall be in accordance with guidelines promulgated by the Administrator in 40 CFR part 136, as required in 40 CFR Part 133.104(a). The self-monitoring requirements are shown in the table below.

Effluent Characteristic	Frequency	Sample/Monitoring Type a/
Total Flow, gpd b/	Daily	Instantaneous
Total BOD_5, mg/L c/	Monthly i/	Composite
Total Suspended Solids, mg/L c/	3 times per week i/, j/	Composite
pH, standard units d/	Monthly i/	Grab
E. coli, no./100 mL f/	Monthly e/, i/	Grab
Oil and grease, visual g/	Weekly i/	Visual

Oil and grease, mg/L g/	Weekly i/	Grab
Floating Solids and Foam h/	Weekly i/	Visual
Ammonia, as N, mg/L	Quarterly i/	Composite
Total Nitrogen, mg/L	Quarterly i/	Composite
Total Phosphorus, mg/L	Quarterly i/	Composite

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

b/ 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 minimum, average and maximum flow rates (in gallons per day) during the reporting period shall be recorded in the daily log and reported.

c/ In addition to monitoring the effluent discharge, influent monitoring shall occur at the same frequency as required for the effluent discharge.

d/ Measurement must be taken within fifteen (15) minutes of sampling.

e/ Monitoring for *Escherichia coli* is from May 1 and September 30 only.

f/ Acceptable analytical methods for *Escherichia coli* testing are referenced in 40 CFR part 136.

g/ A weekly visual observation and sample for oil and grease are required. A grab sample shall be taken, analyzed, recorded in the daily log and reported. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

h/ A weekly visual observation for floating solids and foam is required, recorded in the daily log and reported.

i/ Samples shall be conducted on a two (2) day progression; i.e., if the first sample is on a Monday, during the next sampling period sampling shall begin on a Wednesday, etc. The sampling day shall be recorded in the daily log and reported.

j/ Upon demonstration of continued satisfactory compliance of the terms of this Permit to the authorizing agency and upon written request from the Permittee, the frequency of monitoring for Total Suspended Solids may be reduced from 3 times per week to weekly.

The Permittee shall record all required monitoring data at the frequency described within the Permit into the daily log.

Reporting of Monitoring Results: With the effective date of this Permit, the Permittee must electronically report all monitoring data into the discharge monitoring reports (DMR) on a quarterly frequency using NetDMR. Electronic submissions by the Permittee must be sent to EPA Region 8 no later than the 28th of the month following the completed reporting 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://netdmr.zendesk.com/home.

In addition, the Permittee must submit a copy of the DMR to the Rosebud Sioux Tribe. Currently, the Permittee may submit a copy to the Rosebud Sioux Tribe by one of three ways: 1. a paper copy may be mailed. 2. The email address for Rosebud Sioux Tribe may be added to the electronic submittal through NetDMR, or 3. The Permittee may provide Rosebud Sioux Tribe viewing rights through NetDMR.

The DMRs are due quarterly and are due by the dates listed below and shall not be submitted until the reporting period is complete.

Compliance Monitoring Period	Due Date
January through March	April 28
April through June	July 28
July through September	October 28
October through December	January 28

Operation and Maintenance Program

The Ecolo Chief package plant and the nature of the casino and hotel business create unique operating conditions at the WWTP. Significant flow variability, if not properly managed, can affect the plant's overall efficiency. Extended periods of extreme low flow may create a high stress level to maintain minimum biological activity. Extended periods of peak flow, especially at times when flows significantly exceed design peak flow may result in hydraulic overloading of the facility, providing insufficient time to allow for adequate wastewater treatment. Excess sludge material that the plant cannot effectively assimilate may result in solids being discharged in the effluent. Not maintaining consistent aeration per manufacturer's recommendations throughout the treatment system will disrupt adequate biological activity. Not operating all of the plant's mechanical units per manufacturer's recommendations will reduce the overall efficiency of the plant. These situations may result in multiple non-compliance limit violations.

As such, a proper functioning facility requires a specific operation and maintenance plan. A facility-specific operation and maintenance (O & M) manual expands upon the manufacturer's O & M manual to reflect unique circumstances of the facility and incorporate the operator's knowledge and skill in running the facility effectively in those circumstances. Ideally, an O & M manual is a living document that changes based on operator experience and physical changes in the facility. As a documentation of experience, the O & M manual can provide invaluable insight to any new operator of the plant, maintaining the operation of the facility when an experienced operator is absent. This O & M manual should also include an emergency contingency plan identifying procedures necessary to protect the plant's operation or prevent a bypass or upset in the case when the plant's operation is interrupted.

In addition to the proper operation and maintenance of the wastewater treatment plant, proper operation and maintenance of the wastewater collection system conveying waste to the plant is needed. These facilities include the gravity sewers from the casino/annex, hotel and fuel plaza, clean-outs, manholes, grease trap and lift station. Periodic flushing, inflow/infiltration testing and tele-monitoring of the sewer lines, periodic removal and hauling offsite accumulated grease and oil from the grease trap and cleaning of the grease trap, periodic removal and cleaning of lift station pumps per manufacturer's recommendations and lift station wet well, are important elements of an efficient wastewater collection system and treatment facility.

The Permittee shall have in place the following as part of the operation and maintenance program for the wastewater treatment facility and collection system:

1. Current O & M Manual(s) that describes the proper operational procedures and maintenance requirements of the wastewater treatment facility and collection system per manufacturer's

recommendations. The O & M Manual(s) shall also include facility-specific standard operating procedures for routine operation and maintenance activities including but not limited to cleaning, frequency of constituent removal, methods used to compensate for the variability in flow, emergency backup systems, and procedures necessary in the event of a bypass or upset. The O & M Manual(s) shall be signed by the Owner.

2. The current O & M Manual(s) readily available to the operator of the wastewater treatment facility and collection system, and have the operator be familiar with the manual(s) and any updates.

3. Schedule(s) for routine operation and maintenance activities at the wastewater treatment facility and collection system per manufacturer's recommendations and perform the routine operation and maintenance requirements in accordance with the schedule(s).

4. The Permittee shall maintain a daily log in either paper or electronic format containing a summary record of all operation and maintenance activities at the wastewater treatment facility and collection system. At a minimum, the log shall include the following information:
   Date and time;
   Name and title of person(s) making the log entry;
   Name of the persons(s) performing the activity;
   A brief description and result of the activity; and,
   Other information, as appropriate.

The Permittee shall maintain the log in accordance with proper record-keeping procedures, keep the log on-site and shall make the log available for inspection, upon request, by authorized representatives of the U.S. Environmental Protection Agency or the Rosebud Sioux Tribe.

O & M Self-Monitoring and Reporting Requirements

The following descriptions of additional minimum monitoring shall be provided:

Characteristic	Frequency	Sample/Monitoring Type
Influent BOD_5, mg/L a/	Monthly	Composite
Influent Total Suspended Solids, mg/L a/	3 times per week	Composite
Dissolved Oxygen (Aeration tanks 1-4), mg/L b/	Weekly	Grab
Solids depth in primary separation tank, inches c/	Weekly	Lineal Measurement
Solids depth in final clarifier/settling tank, inches c/	Weekly	Lineal Measurement
Solids depth in aerobic digester, inches c/	Weekly	Lineal Measurement

a/ Percentage Removal Requirements (TSS and BOD_5 Limitation): In addition to the concentration limits for effluent total suspended solids and BOD_5 indicated above, the arithmetic mean of the concentration for effluent samples collected in a 30-day consecutive period shall not exceed 15 percent of the arithmetic mean of the concentration for influent samples collected at approximately the same times during the same period (85 percent removal).

b/ The arithmetic mean of the concentration for dissolved oxygen collected in a 30-day consecutive period for each aeration tank (4) shall be analyzed, recorded in the daily log and reported.

c/ The vertical depth of the level of sludge within the tank shall be measured, recorded in the daily log and reported.

Inspection and Maintenance Requirements

Unless otherwise approved by the Permit issuing authority, the Permittee shall visually inspect and record findings in the daily log, its wastewater treatment facility and collection system, including but not limited to the following:

Ultraviolet Disinfection System: On a daily basis, the Permittee shall visually inspect the condition of the UV bulbs/tubes surface for constituent coverage and the quality of effluent entering the UV inlet (i.e. floating debris and turbidity or clarity (low, medium, high)). The bulbs/tubes shall be cleaned on a frequent basis per manufacturer's recommendations to provide maximum disinfection. Date of visual inspection and cleaning shall be recorded in the daily log;

Lift Station: On a monthly basis, the Permittee shall visually inspect the condition of the pump(s), wet well, controls, etc. Cleaning frequency of facility shall be as required per manufacturer's recommendations to provide maximum station efficiency. Date of visual inspection and cleaning shall be recorded in the daily log;

Grease Interceptor Trap: On a weekly basis, the Permittee shall visually inspect the condition of the trap for accumulation of oil and grease. The Permittee shall maintain and remove the contents of the mechanical grease interceptor at appropriate intervals to ensure that the accumulated solids and oil-grease layers are hauled off-site and do not bypass the capacity of the grease interceptor. Also to be avoided is the bypassing of the functionality or intended purpose of the interceptor as a means of separating solids, grease and oils from the wastewater prior to the wastewater entering the treatment facility. The Permittee shall maintain records in the daily log, receipts, and manifests of interceptor maintenance pumping events and off-site hauling, according to the recordkeeping requirements in Section 2 of the Permit;

Endangered Species Act (ESA) Requirements

Section 7(a) of the Endangered Species Act requires federal agencies to ensure that any actions authorized, funded, or carried out by an Agency are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species.

The U. S. Fish and Wildlife (FWS) Information for Planning and Conservation (IPaC) website program was utilized to determine federally-Listed Endangered, Threatened, Proposed and Candidate Species. The federally listed threatened and endangered species found in Todd County, South Dakota include:

Species/Critical Habitat	Scientific Name	Status
Red Knot	*Calidris canutus rufa*	Threatened
Whooping Crane	*Grus americana*	Endangered
Western Prairie Fringed Orchid	*Platanthera praeclara*	Threatened

American Burying Beetle	*Nicrophorus americanus*	Endangered
Northern Long-eared Bat	*Myotis septentrionalis*	Threatened

The EPA is utilizing the information provided by the U.S. FWS IPaC system and sent a letter to FWS to seek concurrence with EPA's determination before public notice of the Permit.

The EPA determines this Permit is "not likely to adversely affect" any of the species listed by the U.S. Fish and Wildlife Service under the Endangered Species Act. This facility discharges into an unnamed ephemeral tributary of Rock Creek, which flows into the Keya Paha River. The permit limitations are protective of water quality and flows are not expected to be excessive.

On May 24, 2017, the EPA received concurrence from the USFWS South Dakota Field Supervisor that this Permit is "not likely to adversely affect" any of the species listed by the USFWS under the ESA.

National Historic Preservation Act (NHPA) 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 EPA has evaluated its planned reissuance of the NPDES Permit for Rosebud Hotel and Casino to assess this action's potential effects on any listed or eligible historic properties or cultural resources. The EPA does not anticipate any impacts on listed/eligible historic properties or cultural resources because this Permit is a renewal and will not be associated with any new ground disturbance or significant changes to the volume or point of discharge. During the public comment period, the EPA notified the Tribal Historic Preservation Officer (THPO) of the planned issuance of this NPDES Permit and request their input on potential effects on historic properties and EPA's preliminary determination in this regard. The EPA did not received input from the THPO.

Miscellaneous

The Permit will be issued for approximately five years, but not to exceed five years. The effective date and expiration date of the Permit will be determined at the time of permit issuance.

Permit and Statement of Basis drafted by:
Qian Zhang P.E., EPA Region 8, 8WP-CWW
April 18, 2017

Permit and Statement of Basis reviewed by:
Wastewater staff (8WP-CWW)
May 9, 2017

Addendum:

This permit was public noticed on August 9, 2017. The 30 day public comment period closed on September 7, 2017. There were no public comments received.