STATEMENT OF BASIS

Applicant:	City of Fort Pierre
Permit Number:	SD0023582
Contact Person:	Brad Lawrence- Director of Public Works PO Box 700 Fort Pierre, SD 57532
Phone:	(605) 223-7690 (City Hall) (605) 223-7694 (City Shop)
Permit Type:	Minor Municipal Wastewater Treatment Facility - Renewal

DESCRIPTION

The city of Fort Pierre operates a wastewater treatment facility (WWTF) located about ¼ mile south of the city in Section 2 (Latitude 44.330917°, Longitude -100.359028°, Navigational Quality GPS) and, the northeast ¼ of Section 3 (Latitude 44.330927°, Longitude -100.359027°, Navigational Quality GPS) both in Township 4 North, Range 31 East, in Stanley County, South Dakota.

The treatment system consists of ten lift stations and a six cell stabilization pond system. Any wastewater from the west side of highway 83, or north of the city shop is pumped into Cells #5 and #6, this flow accounts for about 30 percent of the total flow into the system. The rest of the city's wastewater is pumped to Cells #1 and #2. Cells #1 and #2 each have a surface area of 7.7 acres and are equipped with Pond Doctors ® to aid in circulation. Cells #1 and #2 can be operated in series or parallel, and are located about ½ mile north of the other four Cells. Cells #3 and #4 are each 10 acres in surface area and are operated in series. Cells #5 and #6 each have a surface area of 7.35 acres are equipped with Pond Doctors ® and are operated in parallel. Wastewater from Cells #1, #2, and from Cells #5 and #6 flows to Cell #3 before being pumped into Cell #4 (outfall 001).

This wastewater treatment facility serves a population of 2,078 persons (2010 census) and has an average design flow of 0.25 million gallons per day (MGD). The city would like to upgrade several sections of sewer to allow for an even distribution of flow between Cells #5 and #6 and Cells #1 and #2. The facility currently accepts waste from the following industries: the Stanley County Livestock Auction, Shur Shine car wash, Morris Inc., and a fish cleaning station.

RECEIVING WATERS

Any discharge from this facility will enter an unnamed tributary of the Bad River. The unnamed tributary is classified by the South Dakota Surface Water Quality Standards (SDSWQS), Administrative Rules of South Dakota (ARSD), Section 74:51:03:01, for the following beneficial uses:

(9) Fish and wildlife propagation, recreation, and stock watering waters; and
(10) Irrigation waters.

The unnamed tributary flows about 500 yards to the Bad River, which is classified by SDSWQS, ARSD, Section 74:51:03:01 and 74:51:03:06 for the following beneficial uses:

(6) Warmwater marginal fish life propagation waters:
(8) Limited-contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters; and
(10) Irrigation waters.

The Bad River flows about three miles to the Missouri River/Lake Sharpe. South Dakota Surface Water Quality Standards classify Missouri River impoundments like Lake Sharpe as flowing streams and not as reservoirs. Lake Sharpe/Missouri River is classified by the SDSWQS, ARSD Sections 74:51:03:01 and 74:51:03:05, for the following beneficial uses:

(1) Domestic water supply waters;
(2) Coldwater permanent fish life propagation waters;
(7) Immersion recreation waters;
(8) Limited-contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters;
(10) Irrigation waters; and
(11) Commerce and industry waters

Since the receiving water body has the minimum beneficial use classification of (9), the SDSWQS (ARSD Section 74:51:01:02.01) require that an analysis of the receiving stream be conducted to determine whether the water body deserves a higher beneficial use designation. The South Dakota Department of Environment and Natural Resources (SDDENR) has conducted an analysis for the unnamed tributary near the discharge location. SDDENR personnel have determined that the beneficial use classifications for this tributary are accurate and will remain unchanged.

ANTIDEGRADATION

SDDENR has fulfilled the antidegradation review requirements for this permit. In accordance with South Dakota's Antidegradation Implementation Procedure and the SDSWQS, no further review is required. The results of SDDENR's review are included in Attachment 1.

MONITORING DATA

The city of Fort Pierre has been submitting Discharge Monitoring Reports (DMRs). Attachment 2 shows the values reported on the DMRs. The city of Fort Pierre has reported the following violations during authorized discharges since the start of the current permit cycle: five BOD_5 violations, two maximum pH violation, six TSS violations, eleven total coliform violations, one fecal coliform violation, and twelve ammonia violations. No discharge was reported for the months not included in the table. In addition to the discharges reported on the DMRs, the city has reported four emergency discharges since the start of the current permit cycle. Because of the continued

effluent violations and emergency discharges, a construction schedule is being included in the proposed permit.

INSPECTIONS

Personnel from SDDENR conducted a *Compliance Inspection* of the Fort Pierre wastewater treatment facility on August 26, 2010. The following comments and corrective actions were made:

Requirements and Corrective Actions

COMMENTS	REQUIRED CORRECTIVE ACTIONS
The city of Fort Pierre has experienced effluent violations of Ammonia, BOD_5, and Total Coliform since the last inspection on August 26, 2010. ▪ Ammonia was violated in the March 2011 discharge. ▪ BOD_5 was violated in the June 2011 discharge. ▪ Total coliform was violated in the March 2011 discharge.	The city **must** look into modifications of its treatment system to ensure adequate treatment of the wastewater. These violations can be subject to a fine of up to $10,000 per day per violation. ***A similar comment has been made on previous inspection reports.***
There is a pH calibration log; however the pH buffer solution expiration date is not being recorded.	A pH meter calibration log must be kept each time the pH meter is calibrated. This log needs to include the date, time, and initials of the person calibrating the meter, **buffer expiration** dates, and the calibrated meter readings for the 7.0 and 10.0 buffer solutions. ***A similar comment has been made on previous inspection reports.***
The dikes are showing signs of sloughing and erosion.	All ponds that are equal to or greater than 5 acres are required to be riprapped. The ponds should be riprapped to stop the erosion caused by high water and wind/wave action. If not corrected, this erosion may cause operation and maintenance problems and result in major repair expenses. Please see enclosed sheet on riprapping.
The effluent structure is designed to calculate	The city is required to report the effluent flow

COMMENTS	REQUIRED CORRECTIVE ACTIONS
flow by measuring the height of the water discharging from the vertical discharge pipe. However, a device to measure the height of the water being discharged has not been installed. The effluent flow is currently being calculated by measuring the drop in water in cell 4 over the duration of discharge.	accurately. The construction of the flow measurement system needs to be completed. Until the effluent flow measurement device is finished being installed, continue to use the change in water elevation to measure flow. **A similar comment has been made on previous inspection reports.**
The Fairgrounds lift station's wetwell basket is broken.	Please make the needed repairs to get this list station operating properly.
There are no pond depth indicators in cells 1 or 2. The measured amount of freeboard is not being recorded in cells 1 or 2.	As required in Section 1.9 of the permit, the **measured amount of freeboard in each pond at the outlet works** must be recorded during each inspection. Pond depth indicators should be installed in cells #1 and 2 to assist in determining the amount of freeboard. These records will be helpful in determining flows to and from the ponds and aid in maintaining the proper operating depths in the ponds at all times. ***A similar comment has been made on previous inspection reports.***
The number of exceedances (No. EX) column is not being filled out properly on the DMR. On the March 2011 DMR, a 30-Day Geometric Mean was calculated; it should have been reported as "NR" because there were less than 5 samples taken. There should only be 1 exceedance, instead of the 2 reported.	Because **less than 5 samples** were taken of the discharge, the 30-day geometric mean should have been reported as "NR" for "Not Required". This caused the No. EX column to be calculated incorrectly. *(This applies to all parameters with a 30-day geometric mean)* More care needs to be taken when filling out the DMRs. If you have questions about filling out DMRs, please contact this office for assistance. **The March 2011 DMR is being returned for corrections.** ***A similar comment has been made on previous inspection reports.***
On the January 2011 DMR, the 30-day average for ammonia had the two numbers after the	More care needs to be taken when filling out the DMRs. If you have questions about filling

COMMENTS	REQUIRED CORRECTIVE ACTIONS
decimal inverted.	out DMRs, please contact this office for assistance. **The January 2011 DMR is being returned for corrections.**
The Units and Sample Type columns are not being filled out consistently.	All blank boxes without ***** need to be filled out. More care needs to be taken when filling out the DMRs. If you have questions about filling out DMRs, please contact this office for assistance. **The January, March and June 2011 DMRs are being returned for corrections.**
Please us the following when not reporting data on your DMRs in place of N/A: NR = Not Required NS = Not Sampled *Ex. – Total Residual Chlorine should be NR, because you do not chlorinate. If you do not calculate a 30-day geometric mean due to fewer than 5 samples enter NR. If you forgot to take samples for a parameter enter NS.*	Please begin using "NR" and "NS" in place of N/A on all future DMRs. If you have questions about filling out DMRs, please contact this office for assistance.
Mr. Montana stated that the city is in the process of raising some of the pond dikes.	Plans and specifications must be submitted and approved prior to beginning construction.
There is a pile of debris between cells 1 & 2 along the west fence.	This debris needs to be cleaned up or removed.

Recommended and Corrective Actions

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
We would like to encourage you to give Mr. Montana or another representative of Fort Pierre the opportunity to attend the wastewater training courses sponsored by the state to upgrade skills and share knowledge concerning	For more information as to dates and locations of upcoming courses in your area, contact South Dakota Association of Rural Water Systems, under contract with DENR, at 203 Center St. W., Madison, SD 57042. Phone:

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
the operation and maintenance of municipal wastewater systems.	(605) 556-7219. Website: http://www.sdarws.com.
Emergency procedures have not been established in the case of a major storm event, a sewer main break, or a chemical release into the sewer system.	The city may wish to consider establishing written emergency procedures to ensure city staff is prepared to address emergencies that may arise during the operation of the wastewater collection and treatment system.
Large concrete slabs have been placed along the inner bank of the cells as riprap in cells 3, 4, 5, and 6. However, this is not adequate for erosion control. The dikes around cells 1, 2, 3, and 4 are showing signs of erosion. The cells capacity may be decreasing because of the eroded dike material on the bottom of the cells.	The concrete material should be removed from the inner bank of the cells and replaced with proper riprap material to stop the erosion caused by high water and wind/wave action. If not corrected, this erosion may cause operation and maintenance problems and result in major repair expenses.
There is weed and tree growth on the pond dikes. There is also a debris pile between cells 1 & 2 along the west fence.	This unwanted vegetation needs to be eliminated to prevent dike damage from erosion and the root systems of these plants. This vegetation also tends to inhibit the air action on the ponds, which in turn inhibits the biological action necessary to treat the wastes and keep odors to a minimum. Once the weeds are eliminated, the pond site should be reseeded with an appropriate grass.
The operator reported that sump pumps discharge into the collection system.	The city needs to enforce its sump pump ordinance. These excess inflows into the system can result in unauthorized discharges from the collection system and the treatment facility.

EFFLUENT LIMITS

The permittee shall comply with the effluent limits specified below. Because of the unique receiving water circumstances, such as the fact that the Missouri River occasionally flows back into the Bad River, the Water Quality Standards for both Lake Sharpe and the Bad River were reviewed for this permit.

Outfall 001 – Any discharge from Cell #4 to an unnamed tributary of the Bad River (Latitude 44.332758°, Longitude -100.361644°, Navigational Quality - GPS).

Interim Effluent Limits
Effective immediately and lasting until **April 30, 2013**, the permittee shall comply with the interim effluent limits below.

No discharge shall occur from this facility until permission is granted by SDDENR. The permittee shall comply with the effluent limits specified below. This requirement is included in the permit because the discharge reaches a stream classified as a fishery. During any discharge, the permittee shall comply with the effluent limits specified below, which are based on the Secondary Treatment Standards (ARSD Section 74:52:06:03), the SDSWQS, Best Professional Judgment (BPJ), and the current permit limits.

1. The BOD_5 concentration shall not exceed 30 mg/L (30-day average) or 45 mg/L (7-day average). These limits are based on the Secondary Treatment Standards.

2. The Total Suspended Solids (TSS) concentration shall not exceed 30 mg/L (30-day average) or 45 mg/L (7-day average). These limits are based on Secondary Treatment Standards.

   If analytical results for BOD_5 show compliance with the permit limits, the permittee may request the permit issuing authority to change the TSS permit limits to 110 mg/L (30-day average) and 165 mg/L (7-day average). This change shall be based on ARSD Section 74:52:06:04 and the SDDENR policy for discharges from stabilization ponds to waters classified for fish and wildlife propagation, recreation, and stock watering. **The permit issuing authority may approve the change without additional public notice.**

3. The pH shall not be less than 6.0 standard units or greater than 9.0 standard units in any single analysis and/or measurement. These limits are based on secondary treatment standards.

   Note: SDDENR specifies that pH analyses are to be conducted within 15 minutes of sample collection with a pH meter. Therefore, the permittee must have the ability to conduct onsite pH analyses. The pH meter used must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units

4. Fecal coliform organisms from May 1 to September 30 shall not exceed a concentration of 200 per 100 milliliters as a geometric mean based on a minimum of 5 samples obtained during separate 24-hour periods for any 30-day period. *This limit is applicable only if five or more samples are taken.*

   In addition, fecal coliform organisms shall not exceed 400 per 100 milliliters in any one sample from May 1 to September 30. These limits are based on the immersion recreation waters classification of Lake Sharpe/Missouri River and the SDSWQS (ARSD Section 74:51:01:50).

5. Total Coliform organisms may not exceed 5,000 per 100 milliliters as a geometric mean based on a minimum of 5 samples obtained during separate 24-hour periods for any 30-day period. *This limit is applicable only if five or more samples are taken.*

   In addition, total coliform organisms shall not exceed 20,000 per 100 milliliters in any one sample. These limits are based on the domestic water supply classification of Lake Sharpe, the SDSWQS (ARSD §74:51:01:44), BPJ, and the current permit.

6. The ammonia-nitrogen concentration shall not exceed the limits specified in the table below. The Bad River at this location is highly influenced by the Missouri River. Because of this, SDDENR believes the current ammonia-nitrogen limits are sufficient to protect the beneficial uses of the Bad River and the Missouri River SDSWQS (ARSD Section 74:51:01:49). These limits are based on the current permit limits and BPJ.

Month	Ammonia Limit (as N)	
	30-Day Average (mg/L)	Daily Maximum (mg/L)
January 1 – 31	8.7	15.3
February 1 – 29	8.7	15.3
March 1 – 31	8.7	15.3
April 1 – 30	2.0	3.4
May 1 – 31	2.0	3.4
June 1 – 30	1.0	1.8
July1 – 31	1.0	1.8
August 1 – 31	1.0	1.8
September 1 – 30	1.0	1.8
October 1 – 31	1.9	3.4
November 1 – 30	8.7	15.3
December 1 – 31	8.7	15.3

7. No chemicals, such as chlorine, shall be used without prior written permission. This limit is based on BPJ.

Effluent water temperature (°C), flow rate (MGD), total flow (million gallons) *Escherichia coli (E.coli,* no./100mL), and duration of discharge (days) shall be monitored, but will not have a limit.

Final Effluent Limits

SDDENR is required by EPA and the federal Clean Water Act to review and revise its surface water quality standards at least every three years. On March 11, 2009, the South Dakota Board of Water Management approved SDDENR's latest triennial review of the South Dakota Surface Water Quality Standards. As part of this review, SDDENR added surface water quality standards

for *Escherichia coli* (*E. coli*). ARSD Section 74:51:01:51 includes numeric criteria for both fecal coliform and *E. coli*. SDDENR intends to phase in the implementation of the *E. coli* standards.

During the reissuance of surface water discharge permits, permittees that are currently required to meet fecal coliform standards will be given time to meet the new *E. coli* limits. Therefore, interim limits for fecal coliform will be initially included in the proposed permit, with a requirement to meet the new *E. coli* limits by May 1, 2013.

Effective **May 1, 2013**, and lasting through the life of the permit, the permittee shall comply with the final effluent limits below.

No discharge shall occur from this facility until permission is granted by SDDENR. The permittee shall comply with the effluent limits specified below. This requirement is included in the permit because the discharge reaches a stream classified as a fishery. During any discharge, the permittee shall comply with the effluent limits specified below which are based on the Secondary Treatment Standards (ARSD Section 74:52:06:03), the SDSWQS, BPJ, the background water quality of the Bad River, and the current permit limits.

1. The BOD_5 concentration shall not exceed 30 mg/L (30-day average) or 45 mg/L (7-day average). These limits are based on the Secondary Treatment Standards.

2. The Total Suspended Solids (TSS) concentration shall not exceed 30 mg/L (30-day average) or 45 mg/L (7-day average). These limits are based on Secondary Treatment Standards.

   If analytical results for BOD_5 show compliance with the permit limits, the permittee may request the permit issuing authority to change the TSS permit limits to 110 mg/L (30-day average) and 165 mg/L (7-day average). This change shall be based on ARSD Section 74:52:06:04 and the SDDENR policy for discharges from stabilization ponds to waters classified for fish and wildlife propagation, recreation, and stock watering. **The permit issuing authority may approve the change without additional public notice.**

3. The pH shall not be less than 6.0 standard units or greater than 9.0 standard units in any single analysis and/or measurement. These limits are based on secondary treatment standards.

   Note: SDDENR specifies that pH analyses are to be conducted within 15 minutes of sample collection with a pH meter. Therefore, the permittee must have the ability to conduct onsite pH analyses. The pH meter used must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units

4. *Escherichia coli (E.coli)* organisms from May 1 to September 30 shall not exceed a concentration of 126 per 100 milliliters as a geometric mean based on a minimum of 5

samples obtained during separate 24-hour periods for any 30-day period. *This limit is applicable only if five or more samples are taken.*

In addition, *E.coli* organisms shall not exceed 235 per 100 milliliters in any one sample from May 1 to September 30. These limits are based on the immersion recreation waters classification of Lake Sharpe/Missouri River and the SDSWQS (ARSD Section 74:51:01:50).

5. Total Coliform organisms may not exceed 5,000 per 100 milliliters as a geometric mean based on a minimum of 5 samples obtained during separate 24-hour periods for any 30-day period. *This limit is applicable only if five or more samples are taken*

   In addition, total coliform organisms shall not exceed 20,000 per 100 milliliters in any one sample. These limits are based on the domestic water supply classification of Lake Sharpe, the SDSWQS (ARSD §74:51:01:44), BPJ, and the current permit.

6. The ammonia-nitrogen concentration shall not exceed the limits specified in the table below. The Bad River at this location is highly influenced by the Missouri River. Because of this, SDDENR believes the current ammonia-nitrogen limits are sufficient to protect the beneficial uses of the Bad River and the Missouri River SDSWQS (ARSD Section 74:51:01:49). These limits are based on the current permit limits and BPJ.

Month	**Ammonia Limit (as N)**	
	30-Day Average (mg/L)	**Daily Maximum (mg/L)**
January 1 – 31	8.7	15.3
February 1 – 29	8.7	15.3
March 1 – 31	8.7	15.3
April 1 – 30	2.0	3.4
May 1 – 31	2.0	3.4
June 1 – 30	1.0	1.8
July1 – 31	1.0	1.8
August 1 – 31	1.0	1.8
September 1 – 30	1.0	1.8
October 1 – 31	1.9	3.4
November 1 – 30	8.7	15.3
December 1 – 31	8.7	15.3

7. No chemicals, such as chlorine, shall be used without prior written permission. This limit is based on BPJ.

Effluent water temperature (°C), flow rate (MGD), total flow (million gallons), and duration of discharge (days) shall be monitored, but will not have a limit.

CONSTRUCTION SCHEDULE

The facility has continued to experience effluent violations and emergency discharges. In accordance with the SDSWQS, ARSD Section 74:52:03:22, a construction schedule shall be incorporated into this permit. The permittee shall achieve compliance with the following schedule:

1. Hire a professional engineer licensed in the State of South Dakota to review the town's sanitary sewer system and identify source(s) of infiltration and inflow by:.... **July 1, 2012**

2. Complete and submit an inflow/infiltration study to SDDENR by:..... **January 1, 2013**

3. Submit a facility plan to SDDENR, identifying the steps the town will take to address sources of excess flow into the system and correct other identified causes of noncompliance by:…….....**April 1, 2013**

4. Submit plans and specifications for system upgrades and modifications to SDDENR for review and approval by:..... **October 1, 2013**

5. Start construction of system upgrades, process modifications, or equipment acquisition, if necessary, by:…….....……**July 1, 2014**

6. Submit quarterly progress reports on construction of treatment systems, process modifications, equipment acquisition, or other items specified in the Facility Plan beginning:….....…**July 1, 2014**

7. Complete construction and startup of treatment system, process modifications, or equipment installation by:…….....…….....……**October 1, 2016**

SELF-MONITORING REQUIREMENTS

Pre-discharge Sample Requirements

Prior to requesting permission to discharge, the permittee shall collect a grab sample from each lagoon cell that will be discharged and have the sample analyzed for:

1. BOD_5, mg/L
2. TSS, mg/L
3. PH, s.u.
4. Fecal Coliform, no./100 mL (effective through April 30, 2013)
5. Total Coliform, no./100 mL
6. *E.coli*, no./100 mL
7. Ammonia-Nitrogen, mg/L
8. Water Temperature, °C

The results of the analyses, along with a request to discharge, shall be submitted to SDDENR. The request to discharge shall explain why a discharge is needed, when the discharge would start, the expected duration of the discharge, and the approximate volume of water to be discharged. The estimated flow condition of the receiving water shall also be reported (i.e. dry, low, normal, high). **No discharge shall occur until permission has been granted by SDDENR.**

Self-Monitoring Requirements – Outfall 001

As a minimum, upon the effective date of this permit, the following parameters shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge.

Effluent Characteristic	Frequency	Reporting Values[1]	Sample Type [1]
Duration of Discharge, days	Monthly	Monthly Total[2]	Calculate
Total Flow, million gallons	Monthly	Monthly Total	Calculate
Flow Rate, MGD	At least three per discharge[3]	Daily Maximum; 30-Day Average	Instantaneous
pH, standard units	At least three per discharge[3]	Daily Minimum; Daily Maximum	Instantaneous [4,5]
Water Temperature, °C	At least three per discharge[3]	Daily Maximum; 30-Day Average	Instantaneous[5, 6]
Five-Day Biochemical Oxygen Demand (BOD_5), mg/L	At least three per discharge[3]	Max 7-Day Average; 30-Day Average	Grab
Total Suspended Solids (TSS), mg/L	At least three per discharge[3]	Max 7-Day Average; 30-Day Average	Grab
Ammonia-Nitrogen (as N), mg/L	At least three per discharge[3]	Daily Maximum; 30-Day Average	Grab[5]
Total Coliform, no./100 mL	At least three per discharge[3, 7]	Daily Maximum; 30-Day Geo Mean	Grab
Fecal Coliform, no./100 mL	At least three per discharge[3, 8]	Daily Maximum; 30-Day Geo Mean	Grab
E. coli, no./100 mL	At least three per discharge[3,9]	Daily Maximum; 30-Day Geo Mean	Grab

[1] See Definitions in the proposed permit.

[2] The date and time of the start and termination of each discharge shall also be reported in the comment section of the DMR.

[3] A minimum of three samples shall be taken during any discharge. A sample shall be taken at the beginning, middle, and end of the discharge if the discharge is less than one

week in duration. If a single, continuous discharge is greater than one week in duration, three samples shall be taken the first week and one each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages. The permittee always has the option of collecting additional samples if appropriate.

[4] pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment. Readings shall be reported to the nearest 0.1 standard units.

[5] The pH and temperature of the effluent shall be determined when ammonia samples are collected.

[6] The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.

[7] **Effective immediately and lasting through the life of the permit,** total coliform levels shall be monitored in the discharge. If a minimum of five samples are collected in a calendar month, all of the samples collected are to be used in determining the geometric mean. Samples are to be collected at the same time as BOD_5, TSS, etc. If less than five samples are taken during any calendar month, the maximum limit still applies.

[8] If a minimum of five samples are collected in a calendar month, all of the samples collected are to be used in determining the geometric mean. Samples are to be collected at the same time as BOD_5, TSS, etc. If less than five samples are taken during any calendar month, the maximum limit still applies. ***This sampling protocol for fecal coliform only applies if the discharge occurs between May 1 and September 30. No fecal coliform sampling is required after April 30, 2013.***

[9] If a minimum of five samples are collected in a calendar month, all of the samples collected are to be used in determining the geometric mean. Samples are to be collected at the same time as BOD_5, TSS, etc. If less than five samples are taken during any calendar month, the maximum limit still applies. ***This sampling protocol for* E. coli *only applies if the discharge occurs between May 1 and September 30.***

Reporting Requirements

Effluent monitoring results shall be summarized for each month and recorded on separate DMRs to be submitted to SDDENR on a **quarterly** basis. If no discharge occurs during a month, it shall be stated as such on the DMR.

Inspection Requirements

Monitoring shall consist of **monthly** inspections of the facility and the outfall to verify that proper operation and maintenance procedures are being practiced and whether or not there is a discharge occurring from this facility. **Daily** inspections are required during a discharge. The lift stations shall be inspected on at least a **weekly** basis, although **daily** inspections are

recommended. Documentation of each of these visits shall be kept in a notebook to be reviewed by SDDENR or EPA personnel when an inspection occurs.

SLUDGE

The city of Fort Pierre has informed SDDENR that removal of sludge from the treatment system may occur in the future. However, because sludge removal is not part of standard operation, the proposed Surface Water Discharge permit shall not contain sludge disposal requirements. The city is required to submit to SDDENR a sludge disposal plan for review and approval **prior** to the removal and disposal of sludge.

DRAINAGE ISSUES

Stanley County has the authority to regulate drainage. Fort Pierre is responsible for getting any necessary drainage permits from the county **prior** to discharging.

ENDANGERED SPECIES

This is a renewal of an existing permit. No listed endangered species are expected to be impacted by activities related to this permit. However, the table below shows the endangered species that may be present in the city of Fort Pierre's geographic area.

COUNTY	GROUP	SPECIES	CERTAINTY OF OCCURRENCE
STANLEY	BIRD	CRANE, WHOOPING	KNOWN
		TERN, LEAST	KNOWN
	FISH	STURGEON, PALLID	KNOWN

This information was accessible at the following US Fish and Wildlife Service website as of October 28, 2011: http://www.fws.gov/southdakotafieldoffice/endsppbycounty.htm

PERMIT EXPIRATION

A five-year permit is recommended.

PERMIT CONTACT

Any questions pertaining to this statement of basis can be directed to Jonathan Hill for the Surface Water Quality Program, at (605) 773-3351.

November 18, 2011

ATTACHMENT 1

Antidegradation Review

Permit Type: **Minor Municipal - Renewal** Applicant: **City of Fort Pierre**

Date Received: **July 3, 2008** Permit #: **SD0023582**

County: **Stanley** Legal Description: **NE ¼ of Sec. 3 and SW ¼ S 2 both in T4 N, R 31E**

Receiving Stream: **Unnamed tributary** Classification: **9,10**

If the discharge affects a downstream waterbody with a higher use classification, list its name and uses: **Bad River 6,8,9,10**
Lake Sharpe/ Missouri River 1,2,7,8,9,10,11

APPLICABILITY

1. Is the permit or the stream segment exempt from the antidegradation review process under ARSD 74:51:01? Yes ☒ No ☐ If no, go to question #2. If yes, check those reasons why the review is not required:

☐ Existing facility covered under a surface water discharge permit is operating at or below design flows and pollutant loadings;

☐ *Existing effluent quality from a surface water discharge permitted facility is in compliance with all discharge permit limits;

☐ *Existing surface water discharge permittee was discharging to the current stream segment prior to March 27, 1973, and the quality and quantity of the discharge has not degraded the water quality of that segment as it existed on March 27, 1973;

☐ *The existing surface water discharge permittee, with DENR approval, has upgraded or built new wastewater treatment facilities between March 27, 1973, and July 1, 1988;

☐ The existing surface water discharge permittee discharges to a receiving water assigned only the beneficial uses of (9) and (10); the discharge is not expected to contain toxic pollutants in concentrations that may cause an impact to the receiving stream; and DENR has documented that the stream cannot attain a higher use classification. This exemption does not apply to discharges that may cause impacts to downstream segments that are of higher quality;

☐ Receiving water meets Tier 1 waters criteria. Any permitted discharge must meet water quality standards;

☐ The permitted discharge will be authorized by a Section 404 Corps of Engineers Permit, will undergo a similar review process in the issuance of that permit, and will be issued a 401 certification by the department, indicating compliance with the state's antidegradation provisions; or

☒ Other: This permit does not authorize an increase in effluent limits.

*An antidegradation review is not required where the proposal is to maintain or improve the existing effluent levels and conditions. Proposals for increased effluent levels, in these categories of activities are subject to review.

No further review required.

ANTIDEGRADATION REVIEW SUMMARY

2. The outcome of the review is:
   - ☒ A formal antidegradation review was not required for reasons stated in this worksheet. Any permitted discharge must ensure water quality standards will not be violated.
   - ☐ The review has determined that degradation of water quality should not be allowed. Any permitted discharge would have to meet effluent limits or conditions that would not result in any degradation estimated through appropriate modeling techniques based on ambient water quality in the receiving stream, or pursue an alternative to discharging to the waterbody.
   - ☐ The review has determined that the discharge will cause an insignificant change in water quality in the receiving stream. The appropriate agency may proceed with permit issuance with the appropriate conditions to ensure water quality standards are met.
   - ☐ The review has determined, with public input, that the permitted discharge is allowed to discharge effluent at concentrations determined through a total maximum daily load (TMDL). The TMDL will determine the appropriate effluent limits based on the upstream ambient water quality and the water quality standard(s) of the receiving stream.
   - ☐ The review has determined that the discharge is allowed. However, the full assimilative capacity of the receiving stream cannot be used in developing the permit effluent limits or conditions. In this case, a TMDL must be completed based on the upstream ambient water quality and the assimilative capacity allowed by the antidegradation review.
   - ☐ Other: _____

3. Describe any other requirements to implement antidegradation or any special conditions That are required as a result of this antidegradation review: _____

Jonathan Hill — Reviewer — November 8, 2011 — Date

Kelli D. Buscher, P.E. — Team Leader — November 8, 2011 — Date

ATTACHMENT 2

Monitoring Data

	BOD, 5-day		Coliform, fecal		Coliform, total		Ammonia total		pH		TSS	
	30D AVG	MX 7D AVG	30D GEO	DAILY MX	30D GEO	DAILY MX	30D AVG	DAILY MX	MAX.	MIN.	30DA AVG	MX 7D AV
Limit DMR Date	30 mg/L	45 mg/L	200 #/100mL	400 #/100mL	5,000 #/100mL	20,000 #/100mL	Varies	Varies	9 SU	6 SU	90 mg/L	135 mg/L
03/31/2004	***34.5***	33.3	NR	NR	38.25	70	7.05	7.28	8.73	8.38	65.5	52.6
07/31/2004	22.25	28	21.5	50	787.5	1,700	0.72	1.57	***9.05***	8.83	79.5	110
12/31/2004	17.25	18	NR	NR	255	500	1.59	1.58	8.88	8.76	57	62
03/31/2005	26	26	NR	NR	270	400	4.52	4.64	8.9	8.74	65.3	65.3
10/31/2005	14	14	NR	NR	70	130	0.03	0.03	8.92	8.84	79.33	79.33
03/31/2006	22.75	26	NR	NR	135	300	3.16	3.47	8.81	8.68	***105***	***184***
03/31/2007	29.37	40	NR	NR	***7,346.25***	17,000	7.25	9	8.59	8.21	***98.7***	103
06/30/2007	29.6	32.6	175.4	***490***	934	2,400	0.2	0.32	8.97	8.56	67	94
12/31/2007	15.75	17	NR	NR	810	2,300	1.34	2.02	8.91	8.81	74.5	88
04/30/2008	25.25	32	NR	NR	655	1,100	***7.83***	***10.2***	8.89	8.75	68	120
07/31/2008	19.33	19.33	86.33	140	1,040	2,200	***1.19***	1.54	8.75	8.58	56.33	56.33
08/31/2008	20	20	23	23	490	490	0.13	0.13	8.75	8.75	50	50
11/30/2008	15	15	NR	NR	77.6	170	0.35	0.35	8.9	8.87	40.6	40.6
03/31/2009	***40.25***	40.6	NR	NR	***99,500***	***160,000***	***13.5***	14.8	7.95	7.78	15.22	16
05/31/2009	***33***	33	59	130	58	130	1.98	***3.47***	8.94	8.73	86.6	86.6
10/31/2009	26.6	26.6	NR	NR	***5,110***	14,000	0.27	0.32	9.03	8.92	***132***	132
02/28/2010	25.25	***62***	NR	NR	***55,000***	16,000	7.8	***16.9***	8.79	8.3	87	***290***
04/30/2010	13	13	NR	NR	60.66	82	***14.63***	***15.4***	8.45	8.44	32	32
08/31/2010	21.33	21.33	78.3	110	3,333.3	5,400	***2.08***	***2.33***	8.57	8.47	76	76
01/31/2011	29	29			***16,966***	***35,000***	***12.9***	13.9	8.13	7.91	14	14
06/30/2011	***36.3***	36.3	53.66	79	156.3	220	0.08	0.1	8.9	8.64	82.66	82.66
07/31/2011	13	13	11.6	14	459.6	1100	0.3	0.43	8.76	8.76	64.3	64.3
08/31/2011	28	28	79	79	220	220	0.05	0.05	***9.17***	9.17	***92***	92

Bold, Italic, shaded numbers indicate violations. "NR" means "Not Required".

Fort Pierre has not submitted the DMRs for October 2010 – December 2010.