

STATEMENT OF BASIS

PERMITTEE: Standing Rock MR & I Water Department

FACILITY: Standing Rock Water Treatment Plant

PERMIT NO.: SD-0030996

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LOCATION: Latitude 45.722333° N Longitude 100.486667° W, Standing Rock Indian Reservation, Corson County, South Dakota.

RECEIVING WATERS Fisher Creek and an unnamed tributary to Fisher Creek, a tributary to Oahe Reservoir on the Missouri River

PERMIT TYPE: Minor Industrial, Indian Country, Permit Renewal

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Background Information

This Statement of Basis is for the renewal of the National Pollutant Discharge Elimination System (NPDES) Permit (SD-0030996) for discharges from the Standing Rock Water Treatment Plant (SRWTP). The SRWTP was under construction when the previous Permit was issued in 2011, with a September 30, 2016, expiration date. That Permit was issued to the Standing Rock Rural Water System, which was the name of a project funded in large part by the American Recovery and Reinvestment Act administered through the Bureau of Reclamation. The correct name of the tribal organization that is responsible for operating the SRWTP and distributing the finished water is the “Standing Rock MR & I Water Department.” The “MR & I” means municipal, rural, and industrial, but the MR & I is normally used in the department name. The renewal Permit will be issued to the Standing Rock MR & I Water Department (SRMRIWD).

The Permittee’s main office is located in Fort Yates, North Dakota, whereas the SRWTP is located approximately 25 miles to the south in Corson County, South Dakota. The SRWTP is located on the west side of the Missouri River and along South Dakota Highway 1806, approximately 13 miles to the NNW of Mobridge, South Dakota. Attachment A at the end of this Statement of Basis is a map showing the location of the SRWTP in relation to SD Highway 1806 and the Missouri River.

The North Dakota portion of the reservation is in the Central Time Zone whereas the South Dakota portion of the reservation is in the Mountain Time Zone. At the SRWTP they operate on the Central Time Zone so as to better coordinate with the main office in Fort Yates.

Water is pumped to the SRWTP from Oahe Reservoir on the Missouri River. According to the permit application, when operating at full capacity, an estimated 753 million gallons per year (mgy) will be pumped to the SRWTP, with an estimated 730 mgy going to the potable water system after treatment. According to information on a Bureau of Reclamation web site (<http://www.usbr.gov/arra/project/standing-rock-rural-water-system.html>) the SRWTP has a capacity of 3 mgd, with the ability to expand to 5 mgd. According to the SRWTP operator, during the summer of 2016 about 700,000 gallons per day (gpd) of water was produced. The demand for water decreases during the winter.

The water treatment process includes lime softening and settling; recarbonation and buffering; prefiltering followed by microfiltration; then the addition of fluoride, chlorine, and ammonia before going to the potable water system. Alum (sodium aluminate) may be used in the lime softening and settling treatment process. There are three microfiltration units (skids). A line diagram from the permit application showing the water treatment process and wastewater treatment is shown in Attachment B at the end of this Statement of Basis.

According to the permit application the sources of wastewater from the SRWTP include the following:

1. Softening clarifiers sludge blowdown (est. 261,000 gpy),
2. Recarbonation and buffer basins (possible overflow and wastewater from twice per year cleaning, inspection, and maintenance) (est. 155,000 gpy),
3. Prefiltering and microfiltration backwash (est. 21,000,000 gpy) and

4. Water drained from membrane filter unit (skid) prior to “enhanced flux maintenance” cleaning (EFM) and “clean-in-place” (CIP) cleaning:
 - a. EMF Drain (est. 420,900 gpy) and
 - b. CIP Drain (est. 27, 600 gpy)

5. Cleaning wastewater from the microfiltration units:
 - a. Enhanced flux maintenance clean (EFM) (est. 525,210 gpy), and
 - b. Clean-in-place (CIP) waste (est. 144,000 gpy). The chemicals used in the clean-in-place of the microfiltration units involves the use of first sodium hypochlorite and sodium hydroxide solutions, followed by citric acid and hydrochloric acid solutions.

All of these wastewaters go the settling pond system, which consists of 3 cells are parallel to each other. Each cell is supposed to have an operational capacity of 103,400 cubic feet, which equals approximately 773,400 gallons. It is the EPA’s understanding that all the wastewater goes to the north end of the three cells and the wastewater is routed to one cell at a time until the solids retention capacity of that cell is reached, then the wastewater is routed to another cell. The design of the SRWTP did not include provisions for adding chemicals to the wastewater going to the settling pond system to aid in the settling of solids. Discharges from the cells will be the result of overflow (i.e., will not be controlled) and are likely to be intermittent in nature. In the permit application it was estimated that the volume of wastewater to be discharged from the settling pond system to be about 23,000,000 gallons per year less settled sludge and evaporation losses. In order to retain settling capability, sludge must be removed from the cells as necessary. The Permittee has land to the east of the SRWTP, in Section 6, for disposal of sludge from the settling pond system.

The permit application was for two outfalls. Outfall 001 is the discharge from the settling pond system. When a discharge occurs, the wastewater will flow via a buried pipe from the settling pond system to a concrete headwall/outlet structure located to the east of the south end of the three ponds and near Fisher Creek. The outfall structure is located at approximately latitude 45.719889° N and longitude 100.485861° W. Based on satellite images, it appears to be approximately 60-70 feet from the outfall structure to Fisher Creek. The discharge would flow across the ground to Fisher Creek.

Outfall 002 is for an overflow of the clear well for the finished water in the SRWTP. There is an alarm system in the clear well to help prevent the water level getting too high and overflowing the clear well. Any overflow of the clear well would be piped to a concrete headwall/outlet structure located to the east of the SRWTP and about 20-30 feet from an unnamed tributary of Fisher Creek. There would be no treatment of an overflow of the clear well. The outfall structure is located at approximately latitude 45.722889° N and longitude 100.485478° W.

Attachment C at the end of this Statement of Basis is a satellite image showing the SRWTP and the location of Outfalls 001 and 002.

According to the permit renewal application there has not been a discharge from either outfall since the SRWTP began operation. The operator of the SRWTP anticipates there may be a discharge from Outfall 001 sometime in 2017 after the planned increase in the number of customers served has occurred.

The effluent limitations in the previous Permit for Outfalls 001 and 002 and the basis for those effluent limitations are given below in Tables 1 and 2, respectively.

TABLE 1
 EFFLUENT LIMITATIONS FOR OUTFALL 001 AND BASIS FOR LIMITATIONS

Effluent Characteristic	Effluent Limitation		Basis <u>b/</u>
	30-Day Average <u>a/</u>	Daily Maximum <u>a/</u>	
Total Suspended Solids, mg/L	30	60	BPJ
Total Residual Chlorine, mg/L	N/A	0.019	WQS
Aluminum, Total Recoverable, mg/L	N/A	0.75	WQS
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.			BPJ & WQS
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			WQS

a/ See Definitions, Part 1.1, for definitions.

b/ BPJ = Technology based limit based on best professional judgement; WQS = Limitation based on protecting water quality

For Outfall 002 there was the requirement that there shall be no discharge except as the result of the overflow of the clear well. Any discharge from Outfall 002 shall be terminated as soon as reasonable and practicable after the Permittee becomes aware of the discharge. There shall be no discharge containing wastewater from the cleaning of the clear well. Any discharge shall meet the numerical effluent limitations given in Table 2.

TABLE 2
 EFFLUENT LIMITATIONS FOR OUTFALL 002 AND BASIS FOR LIMITATIONS

Effluent Characteristic	Effluent Limitation		Basis <u>b/</u>
	30-Day Average <u>a/</u>	Daily Maximum <u>a/</u>	
Total Residual Chlorine, mg/L <u>c/</u>	N/A	0.019 <u>c/</u>	WQS
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			WQS

a/ See Definitions, Part 1.1, for definitions.

b/ BPJ = Technology based limit based on best professional judgement; WQS = Limitation based on protecting water quality.

c/ Effective one year after the effective date of the Permit.

Receiving Waters

The SRWTP is located near the headwaters of Fisher Creek, a stream which flows into Oahe Reservoir on the Missouri River. Any discharge from Outfall 001 would flow a short distance (estimated 60-70 feet) across the land and into Fisher Creek and any discharge from Outfall 002 would flow an estimated 20-30 feet across the ground before going into an unnamed ephemeral drainageway tributary to Fisher Creek. It is at least 6 stream miles from the SRWTP to the point where Fisher Creek flows into Oahe Reservoir on the Missouri River. Based on maps of the area and satellite images, Fisher Creek appears to be an intermittent stream and possibly ephemeral. It is possible that at times, especially during periods

of prolonged dry weather, a discharge from Outfall 001 would not get to Oahe Reservoir. Any discharge that occurs from Outfall 002 should be of short duration before it is stopped.

Water Quality Considerations

The Standing Rock Sioux Tribe has not applied to the EPA for treatment as a state (TAS) for authorization to establish its own water quality standards (WQS) that can be approved by the EPA. Furthermore, the Tribe has not developed WQS for the Standing Rock 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 to be achieved by July 1, 1983”. The EPA regulations on water quality standards specify at 40 CFR Part 131.10(j) “A State must conduct a use attainability analysis as described in §131.3(g) whenever : (1) The State designates or has designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act, or (2) The State wishes to remove a designated use that is specified in section 101(a)(2) of the Act or to adopt subcategories of uses specified in section 101(a)(2) of the Act which require less stringent criteria.” To this writer’s knowledge, a use attainability analysis has not been done on these stream segments. Therefore, the beneficial uses of the receiving waters will be considered to include aquatic life and recreation.

Satellite images of the area show a small in-stream impoundment on Fisher Creek, approximately 1/4 mile downstream from the discharge from Outfall 001. This indicates that Fisher Creek is used for livestock watering and that will be considered as a beneficial use.

The pollutants in the discharges from Outfalls 001 and 002 should not cause water quality problems in terms of recreational and livestock watering uses of the receiving waters. In terms of fresh water aquatic life, the pollutants of potential concern include total residual chlorine (TRC), ammonia nitrogen and aluminum. Because the discharges will be intermittent in nature, only the acute criteria will be considered. The acute criterion for TRC is 0.019 mg/L. The chlorine is likely to decay in the settling pond system sufficiently to meet the criteria at Outfall 001, but the TRC concentrations at Outfall 002 most likely will exceed the 0.019 mg/L criterion if there were to be a discharge. The average concentration of TRC in the clear well is in the 2-3 mg/L range, more than 100 times the water quality criterion of 0.019 mg/L.

Ammonia is likely to be present in any discharges from Outfall 002 due to the addition of ammonia to the water at the clear well prior to the water going to the distribution system. Ammonia is not likely to be present in the discharges from Outfall 001 since the water used for backwashing the filter and microfiltration systems is obtained prior to the addition of ammonia. The EPA’s latest acute criterion for ammonia nitrogen is dependent on pH and temperature (78 FR 52192 Final Aquatic Life Ambient Water Quality Criteria for Ammonia-Freshwater 2013). Operational data for the SRWTP, from August 24, 2015, to present, show that the pH of the water in the clear well often exceeds 9.0 and the temperature is as high as 71° F (21.7° C). For a pH of 9.0 and a temperature of 22° C, the EPA’s recommended acute criterion is 0.52 mg/L of total ammonia (as N). That value is from Table 5b of the EPA’s 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia-Freshwater 2013*, EPA 822-R-13-001, April 2013.

The fresh water aquatic life acute criterion for aluminum is 0.75 mg/L. Aluminum is likely to be present in the discharge from Outfall 001 due to the use of alum in the treatment process. However it is not known if it will be present in the discharges from Outfall 002 in sufficient concentrations to have reasonable potential to exceed the 0.75 mg/L criterion.

The state of South Dakota has classified the Missouri River from Big Bend Dam to the North Dakota border for (1) domestic water supply waters, (2) coldwater permanent fish life propagation waters, (7) immersion recreation waters, limited-contact recreation waters, and (11) commerce and industry waters. It is highly unlikely the pollutants from the two discharges would make it to the Missouri River in concentrations and quantities great enough to have a measurable effect on water quality.

Effluent Limitations

Technology based effluent limitations normally are based on applicable effluent limitations guidelines (ELGs), applicable promulgated effluent limitations (e.g., applicable state effluent limitations), and in the absence of either ELGs or applicable promulgated effluent limitations, best professional judgement (BPJ) as provided for in Section 402(a)(1) of the Clean Water Act. Currently there are no effluent limitations guidelines for discharges from water treatment plants and there are no applicable promulgated effluent limitations that would apply to the two discharges. The use of properly maintained settling ponds should provide good removal of suspended solids. As in the previous Permit, BPJ will be used to set a 30-day average limitation of 30 mg/L and a daily maximum limitation of 60 mg/L on total suspended solids (TSS). For pH, a technology based limitation of a minimum of 6.0 and a maximum of 9.0 is widely used in the wastewater treatment field. However, the water quality criterion for pH for warm water aquatic life is 6.5 to 9.0. Since the 6.5 to 9.0 limitation is more restrictive, that limitation will be used in the renewal Permit as was done in the previous Permit. The EPA Region 8 has used a technology based limitation of 10 mg/L on oil and grease with no visible sheen based on BPJ for many years. This limitation is also somewhat protective of water quality, but no oil and grease is preferred. The limitations and the basis for the limitations are given in the following table. They are the same as used in the previous Permit. There is no new information to indicate that a change in effluent limitations is appropriate.

Effluent Characteristic	Effluent Limitation		Basis <u>b/</u>
	30-Day Average <u>a/</u>	Daily Maximum <u>a/</u>	
Total Suspended Solids, mg/L	30	60	BPJ
Total Residual Chlorine, mg/L	N/A	0.019	PWQ
Aluminum, Total Recoverable, mg/L	N/A	0.75	PWQ
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.			BPJ & PWQ
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			PWQ

a/ See Definitions, Part 1.1, for definitions.

b/ BPJ = Technology based limit based on best professional judgement; PWQ = Limitation based on protecting water quality.

The effluent limitations for Outfall 002 will include the same final limitations as in the previous Permit plus a daily maximum limitations of 0.52 mg/L on total ammonia as N. As previously explained in the section on water quality considerations, the 0.52 mg/L value is based on a discharge pH of 9.0 and a temperature of 22° C. The effluent limitations and the basis for the limitations are given in the following table. The presence of oil and grease in an overflow of the clear well is highly unlikely, so there will be no effluent limitation on oil and grease.

Effluent Characteristic	Effluent Limitation		Basis <u>b/</u>
	30-Day Average <u>a/</u>	Daily Maximum <u>a/</u>	
Total Residual Chlorine, mg/L	N/A	0.019	PWQ
Total Ammonia as N, mg/L	N/A	0.52	PWQ
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			PWQ

a/ See Definitions, Part 1.1, for definitions.

b/ BPJ = Technology based limit based on best professional judgement; PWQ = Limitation based on protecting water quality.

In addition to the numerical effluent limitations for Outfall 002, the renewal Permit will require that there shall be no discharge from Outfall 002 except as the result of the overflow of the clear well. Any discharge from Outfall 002 shall be terminated as soon as reasonable and practicable after the Permittee becomes aware of the discharge. In addition, there shall be no discharge containing wastewater from the cleaning of the clear well.

The water level alarm system in the clear well is an attempt to avoid having a discharge from Outfall 002. If discharges start occurring, it may be necessary for the Permittee to consider such options as constructing a containment pond at the end of Outfall 002 or routing any discharge from Outfall 002 to the settling ponds on the other side of the SRWTP.

Self-Monitoring Requirements

The self-monitoring requirements in the renewal Permit are similar to those of the previous Permit and are given in Part 1.3.2 of the Permit. Quarterly monitoring for total nitrogen and total phosphorus have been added to the monitoring requirements for Outfall 001 in order to obtain an idea of the amount of nutrients being discharged. This monitoring is not being required for Outfall 002 because what discharges that may occur should be seldom and of very short duration.

The Permittee is expected to be able to monitor the rates of discharge from Outfall 001 with reasonable accuracy (+ or - 10%). Although there presently are no flow measuring capabilities in place, the Permittee has had more than ample time to make the necessary arrangements for measuring the rates of discharge from Outfall 001.

The special monitoring requirements for Outfall 001 given in Part 1.3.2.3 has been modified to start the monitoring after the first discharge begins and to be continued for 18 months. The purpose of this

monitoring is to determine the effluent concentrations of total ammonia and to determine if the discharge presents a water quality problem in terms of ammonia toxicity to aquatic life. In addition to ammonia, the permittee will have to monitor temperature and pH of the discharge at essentially the same time the ammonia samples are taken.

For Outfall 002 the self-monitoring requirements have been modified by adding total ammonia (as N) to the list of effluent characteristics to be monitored. The frequency of monitoring for pH and total residual chlorine has been changed from weekly to daily because the duration of any discharges is expected to be very short. The flow monitoring requirements for Outfall 002 will be essentially the same as in the previous Permit. What discharges actually occur should be infrequent and of short duration. This would make it difficult for the Permittee to obtain actual flow measurements. A reasonable estimate of the volume of water discharged from Outfall 002 can be obtained from the duration of the discharge and the rates of flow into the clear well. Ideally, there will never be a discharge from Outfall 002.

Reporting of Self-Monitoring Requirements and Other Reports

On October 22, 2015, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule was published in the *Federal Register* (80 FR 64064). The rule became effective on December 21, 2015, and involves two phases. Phase 1 includes the requirement that by no later than December 21, 2016, entities that are required to submit DMRs must do so electronically unless a waiver from electronic reporting is granted to the entity. Phase 2 includes the requirement that by no later than December 21, 2020, other specified reporting must be done electronically.

Since the renewal Permit will not be issued and effective prior to December 21, 2016, the Permittee must electronically report DMRs using NetDMR. Electronic submissions by Permittees must be sent to EPA Region 8 **no later than the 28th of the month following the completed calendar quarter**. The Permittee must sign and certify all electronic submissions in accordance with the requirements of Part 4.7 of this Permit (“Signatory Requirements”). NetDMR is accessed from the internet at <https://netdmr.zendesk.com/home>.

The results from the special monitoring required in Part 1.3.2.3 of this Permit shall be tabulated in a Word or PDF document and attached to the NetDMR for that reporting quarter.

The reports that are to be submitted electronically after December 21, 2020, are to be submitted using “NeT”. The instructions on how to use “NeT” are not yet available. The Permittee will in the future receive instructions on how to use “NeT”. Until then, the Permittee shall continue to submit any other reports (e.g., Parts 2.8 and 2.9) in paper format and mailing them to the specified addresses.

Biological Evaluation for the Endangered Species Act (ESA) Requirements

Section 7(a) of the Endangered Species Act requires federal agencies to insure 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. As of September 26, 2016, the federally listed threatened (T) and endangered (E) species listed on the U. S. Fish and Wildlife Service’s (USFWS) web site for “Information for Planning and

Conservation (IPAC) in the area of the SRWTP and the area affected by possible discharges from Outfalls 001 and 002 consisted of the following:

<u>Group</u>	<u>Common Name and Species</u>	<u>Status</u>
Birds	Least Tern (interior population) (<i>Sternula antillarum</i>)	E
Birds	Piping Plover (<i>Charadrius melodus</i>)	T
Birds	Red Knot (<i>Calidris canutus rufa</i>)	T
Birds	Whooping Crane (<i>Grus americana</i>)	E
Fishes	Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	E
Mammals	Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	T

In addition, one critical habitat was listed on the web site for the affected area. The USFWS has designated critical habitat for the northern Great Plains breeding population of the piping plover (67 FR 57638). According to the designation, "Critical habitat includes prairie alkali wetlands and surrounding shoreline, including 200 feet (ft) (61 meters (m)) of uplands above the high water mark; river channels and associated sandbars, and islands; reservoirs and their sparsely vegetated shorelines, peninsulas, and islands; and inland lakes and their sparsely vegetated shorelines and peninsulas." The designation of critical habitat was done by township, range, and section descriptions. In South Dakota it appears that all of the shoreline along Lake Oahe is included as critical habitat. The middle and upper portions of the Fisher Creek drainage are not in the area designated as critical habitat. Where Fisher Creek flows into an arm of Lake Oahe (Mooquit Valley) has been designated as critical habitat, as is most of the shoreline of Lake Oahe.

For the reasons given below, the EPA finds that reissuance of this NPDES Permit (SD-0030996) for the Standing Rock Water Treatment Plant is Not Likely to Adversely Affect any of the species listed as threatened or endangered for Corson County by the U.S. Fish and Wildlife Service under the Endangered Species Act nor their critical habitat.

1. The discharges authorized by this Permit would only affect water quality in the Fisher Creek drainage and a very small portion of the Missouri River.
2. The permit requirements are protective of water quality.
3. The only fish in the above list is the Pallid sturgeon, which is found in the Missouri River. Between the massive amount of dilution provided by the Missouri River and the effluent requirements of the Permit, the potential discharges would not have a measurable impact on water quality in the Missouri River.
4. The permit requirements do not necessitate any construction activities in areas designated as critical habitat.

Note: Before going to public notice, a copy of the draft Permit and this Statement of Basis was sent to the USFWS requesting concurrence with the EPA's finding that reissuance of this NPDES Permit (SD-0030996) for the Standing Rock Water Treatment Plant is Not Likely to Adversely Affect any of the species listed as threatened or endangered for Corson County by the USFWS under the Endangered Species Act nor their critical habitat. On October 31, 2016, the USFWS concurred with the EPA's conclusion that the described project will not adversely affect listed species.

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 the Standing Rock Water Treatment Plant to assess this action's potential effects on any listed or eligible historic properties or cultural resources. There are no historic properties listed in the immediate vicinity of the SRWTP nor in the area affected by possible discharges from the SRWTP. 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 of discharges nor any new points of discharge (i.e. Outfalls). The EPA is also requesting comments from the tribal historic preservation office (THPO) and the public on the possible adverse effects of reissuing the Permit on historic properties and/or cultural resources in the area.

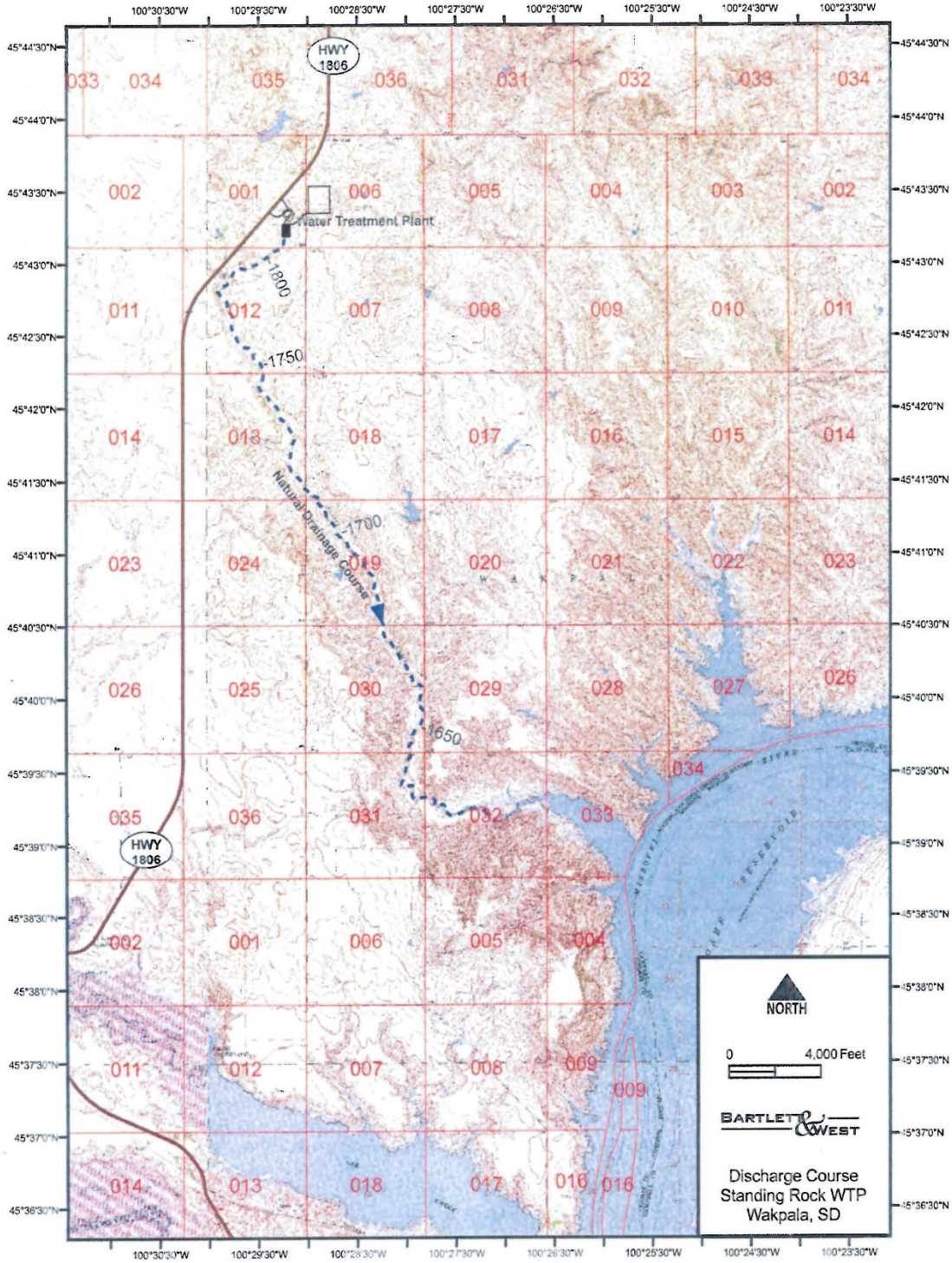
Miscellaneous

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

Permit drafted by Bob Shankland
SEE, 8WP-CWW, EPA Region 8
October 17, 2016

ATTACHMENT A

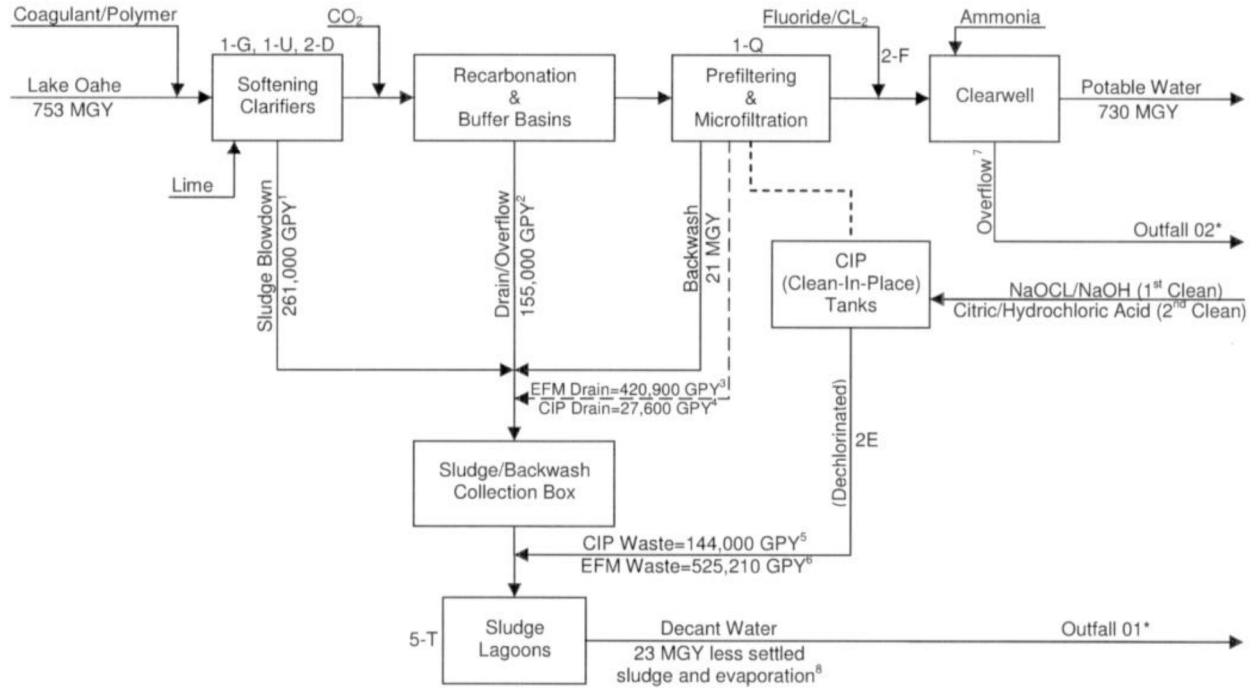
Map Showing Location of SRWTP in Relation to SD Highway 1806 and the Missouri River



ATTACHMENT B

Line Diagram of Water Treatment Process and Wastewater Treatment from the 2010 Permit Application

LINE DRAWING



¹ Estimated sludge production at 1.5mgd (yearly average) = 6,880.5 lb/day. Assumed 25% semi-solid.

² Assumes 0 gal/yr for overflow and MF buffer/recarbonation basins drained twice per year for cleaning, inspection, and maintenance.

³ Prior to an "enhanced flux maintenance" clean (EFM), water is drained from the membrane skid resulting in 1,150 gal per skid per clean. EFM's are estimated to be performed every 3 days or 122 times per year.

⁴ Prior to a "clean-in-place" (CIP), water is also drained as above. CIP's are estimated to be performed every 45 days or 8 times per year.

⁵ CIP's (clean-in-place) are estimated to be performed 8 times per year per skid and consist of cleaning solution and flush water.

⁶ EFM's (enhanced flux maintenance clean) are estimated to be performed 122 times per year per skid and consist of cleaning solution and flush water.

⁷ Overflow of potable water from clearwell will occur primarily during initial startup testing and only infrequently thereafter. Quantities unknown and anticipated to be negligible.

⁸ The 23 MGY is based on anticipated year-round average with backwash water being the major constituent. Approximately 7-9 MG of this total are anticipated to be discharged during the summer months.

*Outfalls discharge into an unnamed intermittent stream approximately 6.6 miles upstream from "Waters of the U.S." (Lake Oahe).

ATTACHMENT C

Satellite Image of SRWTP and Outfall 001 and Outfall 002

