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DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

2050 WEST MAIN STREET, SUITE 1
RAPID CITY, SOUTH DAKOTA 57702-2493

denr.sd.gov



MAYOR'S OFFICE



October 20, 2014

The Honorable Sam Kooiker
Mayor, Rapid City
300 6th Street
Rapid City, SD 57701

RE: Surface Water Discharge Compliance Inspection (SWD Permit Number: SD0023574)

Dear Mayor Kooiker:

The South Dakota Department of Environment and Natural Resources conducted a Surface Water Discharge Compliance Inspection of the city's wastewater treatment facility on August 28, 2014. I appreciate the time and cooperation of Dave Van Cleave, Bob Druckrey, and Clyde Jones in supplying the requested information.

The administration and operating personnel are commended for the excellent operation, maintenance, and preventive maintenance programs. The continued improvement will extend the normal life of the facility and assure water quality benefits to the community and the state.

I have enclosed an Inspection Summary and a copy of the inspection report. Please pay special attention to the Inspection Summary table and implement the recommended corrective action as soon as possible. All corrective actions taken will be reviewed during our next inspection at your facility.

Thank you for your continued efforts to protect the environment and natural resources of South Dakota. Please review this report for accuracy, and respond within thirty days with any needed corrections. If you have any questions about this letter or the inspection report, please contact me at (605) 394-2229.

Sincerely,

Douglas Baldwin
Engineer II
Surface Water Quality Program

Enclosures

cc: Dave Van Cleave, Rapid City
SWD File - Pierre

INSPECTION SUMMARY

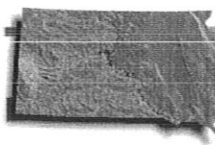
Facility: Rapid City Wastewater Treatment Facility

SWD Permit: SD0023574

Inspection Date: August 28, 2014

The following comment and corrective action is **recommended** and will improve the operation of your facility.

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
The city of Rapid City experienced a fecal coliform violation since the last inspection.	Although the facility has rectified the problem it had with the UV system, it has been indicated that the UV system may not be adequately sized and needs to be upgraded. The city should make the upgrade to the UV system a high priority to ensure continued compliance with its SWD permit.



I. GENERAL FACILITY INFORMATION

Name Rapid City Wastewater Treatment Facility
 Location Section 25, T1N, R8E, Pennington County, SD. About 5 miles east of Rapid City.
 SWD Permit Number SD0023574
 Mailing Address 300 6th Street, Rapid City, SD 57701
 Street Address 7903 Southside Dr., Rapid City, SD 57703
 Contact Person / Title Dave Van Cleave / Water Reclamation Superintendent Phone Number (605) 394-4174
 Responsible Party / Title Sam Kooiker / Mayor Phone Number (605) 394-4143

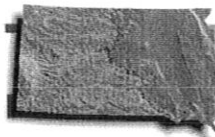
Persons present during the inspection:

<u>Name</u>	<u>Title</u>	<u>Affiliation</u>
Dave Van Cleave	Water Reclamation Superintendent	Rapid City
Bob Druckrey	Environmental Processes Supervisor	Rapid City
Clyde Jones	Water Reclamation Supervisor	Rapid City
Douglas Baldwin	Engineer II	SDDENR

Inspection Date	<u>August 28, 2014</u>	Last Inspection Date	<u>Onsite: 8/16/12 Offsite: 8/21/13</u>
Entrance Time	<u>8:00am</u>	Exit Time	<u>12:30pm</u>
Permit Effective Date	<u>4/1/01</u>	Permit Expiration Date	<u>3/31/06</u>
Avg. Reported Flow Rate	<u>9.84 MGD</u>	Avg. Design Flow Rate	<u>15MGD</u>
Population Served	<u>75,000</u>	Design Population	<u>94,000</u>
Date Facility Began Operation	<u>1967</u>	Equivalent (if known)	<u>94,000</u>
Receiving Water and Classification	<u>Rapid Creek 4, 7, 8, 9,10</u>	Dates of Facility Upgrades	<u>1984, 1991, 2004, 2012</u>

Facility Description from the Statement of Basis and Flow Diagram

The city of Rapid City operates a wastewater treatment facility (the Rapid City Water Reclamation Facility) in Pennington County, located southeast of the city (Section 25, Township 1 North, Range 8 East) Latitude 44° 01' 20.8", Longitude 103° 05' 52.5" (navigational-quality GPS). The facility receives wastes from a population of approximately 72,000 (permit application).



The facility, constructed in 1967 and upgraded in 1984, provides tertiary treatment and consists of the following processes:

- flow measurement and cyclonic grit removal;
- four primary clarifiers;
- two trickling filters;
- four secondary clarifiers;
- four banks of rotating biological contactors;
- four tertiary clarifiers;
- chlorine disinfection and dechlorination;
- post-aeration consisting of cascade aeration; and,
- anaerobic digestion - digested biosolids from two primary and one secondary digestors is stored in two holding cells and land applied for agricultural use.

The city administers an industrial pretreatment program as required under the current permit. The city has 25 permitted significant industrial users. Industrial dischargers comprise approximately 7% of the total facility flow.

Average design flow is 13.5 MGD, with a peak design flow of 40 MGD. Actual average daily flows are approximately 10 MGD.

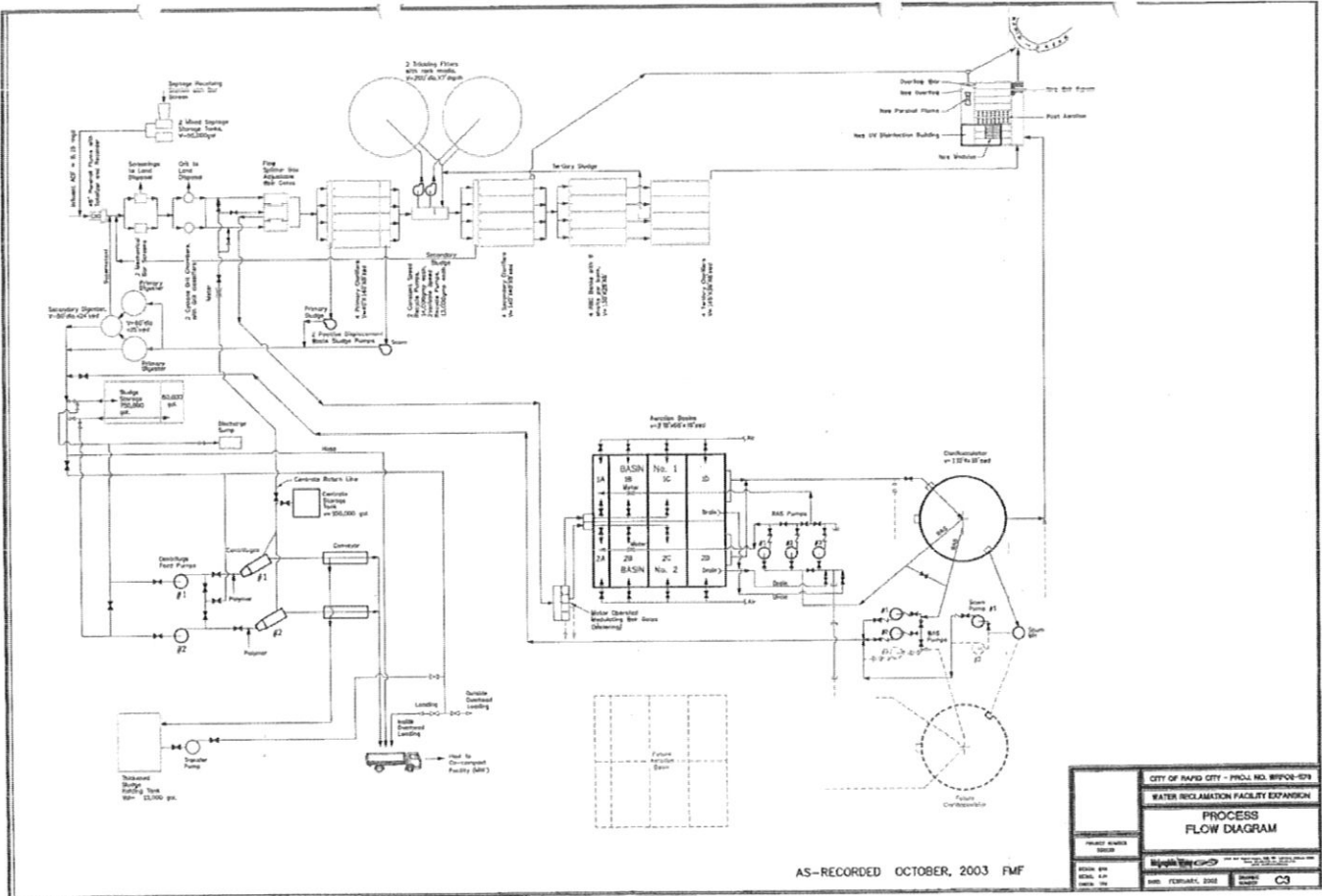
Does the facility match the above description? **No** If not, describe facility modifications or changes.

The facility has made modifications to the head of the plant. The facility now has a metering pit with a Flo-Dar AV sensor for measuring the wastewater entering the plant (Picture #1). Wastewater is screened through Huber multi rig fine screens. The fine screens are automatically raked. Solids go through a sluice and auger system and are sent to the landfill. The grit removal system follows the fine screens and consists of grit chambers, cyclone grit removal, and a Lakeside grit classifier.

The tertiary clarifier weir channels on the north side of the plant are now covered. The clarifier weir channel on the south side of the plant is now covered.

MECHANICAL FACILITY INSPECTION CHECKLIST

SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES



II. Personnel and Budget Review

Personnel:

	Certifications			
	Number of Certified Operators and Classification			
	Class I	Class II	Class III	Class IV
WW Collection	3	1	6	1
WW Treatment		4	6	2

What classifications of certified operators are they required to have?

Class IV treatment

Class IV collection

Budget: Fiscal Year 2013

Annual wastewater expenses	<u>\$ 15,363,040</u>	Monthly residential sewer use fees	<u>\$ See comments</u>
Annual wastewater revenues	<u>\$ 12,252,593</u>	Monthly commercial sewer use fees	<u>\$ See comments</u>

Describe any wastewater projects proposed during the next three years.

Trojan UV system, replace arms on trickling filter, replace trickling filter pump lift station. Working on a new SCADA system for the plant.

Describe measures to raise funds for the project(s).

City funds.

Personnel and budget comments: Residential and commercial fees vary depending on the size of the meter. The billing rate factors vary with the size of the meters.

III. Required Recordkeeping

PERMIT VERIFICATION

- Is a copy of the permit and other related materials readily available?
- Are the discharge point(s) as described in the permit? If no, explain.
- Facility, address and contact information is correct in the SWD Database (Fees, SSO's, PTD's, Inspections, PDF's, Flooding, etc.)? If not, list correct information.
- Facility, address and contact and permit information is correct in the ICIS Database (Monitoring, Limits, Inspections, Schedules, etc.)? If not, list correct information.

Yes	No	N/A
X		
X		
X		
X		

INSPECTION RECORDS

1. Is an inspection notebook maintained for the facility?
2. Is all required information recorded?
 - a. Date and time of the inspection.
 - b. Name of the inspector(s).
 - c. Identification of operational problems and/or maintenance problems.
 - d. Recommendations, as appropriate, to remedy identified problems.
 - e. A brief description of any actions taken with regard to problems identified.
 - f. Other information, as appropriate.

Yes	No	N/A
X		
X		
X		
X		
X		
X		
X		
X		

MAINTENANCE RECORDS

1. Does the facility have a system for addressing maintenance activities?
2. Are records maintained documenting maintenance activities? If yes, describe:
Microsoft Access is used to schedule and maintain the maintenance activities.

Yes	No	N/A
X		
X		

DISCHARGE MONITORING REPORTS

1. Is the facility approved for NetDMR? (If so, there will be no DMRs in the file after the approval date.)
2. Review the city's DMR file(s). Are the files complete and reasonably organized?
3. Are sample results or lab bench sheets available?
4. Review the most recent DMR submitted. Are DMRs filled out correctly? If no, explain:

5. Have all DMRs been submitted since the last inspection? If not, list missing DMRs.

6. Have DMRs been submitted on-time?

Yes	No	N/A
X		
X		
X		
X		
X		
X		
X		
X		

STORM WATER

1. Is storm water permit coverage required for the facility (>1.0 MGD design flow)?
2. Does the facility have coverage under the industrial storm water permit (or is storm water language included in the surface water discharge permit)? **See comments.**
3. If the facility is required to have storm water coverage, has a storm water pollution prevention plan (SWPPP) been developed as required?
4. Is the SWPPP up-to-date and adequate for the facility?
 - a. Personnel Responsibilities
 - b. Site Map
 - c. Inventory of Exposed Materials

Yes	No	N/A
X		
	X	
		X
		X
		X
		X
		X
		X
		X

- d. Risk Identification and Summary of Potential Pollutant Sources
 - e. Pollutant Source Consideration
 - f. Spills and Leaks
 - g. Sampling Data
5. Has the facility conducted inspections at least semi-annually?
6. Are storm water inspections documented and include the certification statement? If no, explain:
-

Yes	No	N/A
		X
		X
		X
		X
		X
		X

RECORDS RETENTION

1. Are inspection records, DMRs, sample results, chain of custody forms, calibration records and other information kept for at least three years?

Yes	No	N/A
X		

Comments regarding required recordkeeping: The July 2014 DMR was reviewed as a part of the inspection and no errors were found. The facility did have coverage under an industrial storm water permit (SDR41A007). The facility has since submitted a No Exposure Certification and is no longer required to meet the requirements of the industrial storm water permit. The facility has excellent record keeping practices.

IV. Compliance Schedule

1. Is the facility subject to a compliance schedule either in its permit or in an enforcement action? If yes, note date and type of action. _____
2. List milestones that remain in the schedule: _____
3. Has facility missed milestone dates? If yes explain: _____
4. Facility will meet final compliance schedule date.

Yes	No	N/A
	X	
		X
		X

Compliance schedule comments: The facility does not have a compliance schedule.

V. Industrial Wastes

1. Does the facility accept hauled (septage) wastes? If yes, list hauler contact information:
Central States Inc., Hills Septic, Waste Connections, Trimac Transportation and
AAA Sanitation. The facility has all necessary contact information.

Yes	No	N/A
X		

	Yes	No	N/A
2. If accepted at the facility, is septage monitored (sampled or visually inspected)? Explain: <u>Visually inspected and sampled.</u>	X		
3. Does the facility receive industrial or other wastes? If yes, list sources. <u>There are 11 significant industrial users.</u>	X		
4. Have any new industries been identified within the last 12 months? If yes, provide name and type of industry. <u>Ultramax Ammunition and Jackson Springs Water Treatment Plant.</u>	X		
5. Are industries regulated by ordinance? If yes, attach relevant ordinance.	X		
6. What is the average daily flow rate of industrial sources? % hydraulic and organic loading? <u>Industrial sources are about 2.29% of total flow. Hydraulic and organic loading about 7% of total flow.</u>			

Comments concerning industrial wastes: The facility has not had problems with industrial sources. The city's ordinances can be viewed on the city's website.

VI. Biosolids

	Yes	No	N/A
1. What disposal or reuse method is employed? <u>Compost/Landfill</u>			
2. Has the annual report been submitted on-time? If not, explain: _____	X		
3. Is the Best Management Practices plan current and readily available?	X		
4. What Pathogen Reduction Method is used? (if applicable) <u>Daily burial and Alternative #5</u>			
5. What Vector Attraction Reduction Method is used? (if applicable) <u>Same as above.</u>			
6. Is the facility producing Class A or Class B Biosolids? <u>Both</u>			
7. Are land application site restrictions being met? (if applicable)	X		
8. Annual amount of biosolids (in dry metric tons) produced or disposed of. <u>1,362 dmt.</u>			
9. Are biosolids records maintained for five years?	X		

Comments concerning Biosolids: The facility also takes in biosolids from Summerset and Hot Springs, which resulted in 15 dmt. This amount is included in the annual reported amount.

VII. Collection System and Lift Stations

Type of Collection System: Separate Combined (San + Storm)
 Both Other

If other, please explain. _____

1. Is a routine sewer-cleaning schedule maintained? If yes, what is the schedule and what type of equipment is used? Pipes under 12 inch are cleaned annually.
2. Have sewer backups occurred in basements since the last inspection? If yes, explain: Some backups were the result of city line problems and some were the result of private line problems. None of the backups are related to the inability for the system to handle flows.
3. Have any sanitary sewer overflows occurred since the last inspection? If yes, explain (date, volumes, receiving water etc). The city has reported at least 13 SSOs. These SSOs were both for the city's system and private systems if the city became aware of the SSO. All necessary information has been entered into the SW database for each of these events.
4. Have bypasses occurred from the collection system (including lift stations) since the last inspection? If yes, explain (date, volumes, receiving water, etc.) _____
5. Were all SSOs and bypasses reported to DENR as required?
6. Does the permittee have a sump pump ordinance? If yes, how is it enforced? It can be enforced through fines and denying service.
7. Has testing for inflow/infiltration sources been conducted since the last inspection? If yes, describe testing. The last I/I study was conducted in 2010 - 2011
8. Have sources of inflow/infiltration been identified?
9. What measures have been taken to correct inflow/infiltration problems? The city has identified and is working on funding future projects for reducing I/I
10. Has the collection system been upgraded since the last inspection? If yes, describe: Elk Vale lift station has been completed. Several small upgrades have also been completed.
11. Miles of collection system, if known: 329.3 miles

Yes	No	N/A
X		
X		
X		
X		
		X
X		
	X	
X		
X		

Lift Stations:

Item	Comments
Number of lift stations	7
Type of lift station (wetwell/drywell, submersible, etc.)	Elk Vale is wetwell/drywell all others are submersible.
Areas served	Various areas.
Inspection frequency	Daily
Condition of lift station	Lift stations are in good operating condition.
Alternative power source available	Elk Vale has a generator. The city has a portable generator that can be used at any of the lift stations.
Wetwell baskets (quantity)	Elk Vale has a wetwell basket.
Cleaning schedule	1-2 times per week.
Bar screens (quantity)	N/A
Cleaning schedule	N/A
Screenings disposal	Rapid City Landfill
Dehumidifier working properly (if applicable)	Yes
Ventilation system working properly (if applicable)	Yes
Type of alarm system	Scada system for all lift stations. Alarms include High/High, High, Low, Power loss, Pump Failure etc. System has auto dialer and auto message system.
Alarm system working properly	Yes
Hour meters	Yes
Hour meter readings are recorded in an inspection notebook	Yes
Pump ratings	Varies
Pump calibration schedule	Annually
Maintenance	Facility has a regular maintenance system.

VIII. Plant Operations and Performance

Plant Operations

	Yes	No	N/A
1. Are standby power or equivalent provisions provided for the treatment facility? Describe: 500KW Diesel Generator	X		
2. Does the facility have an alarm system for power or equipment failures?	X		
3. Have emergency procedures been established for the treatment system?	X		
4. Can the facility be bypassed (internal, total, etc.)? If yes, describe bypass procedures. Every process can be bypassed for maintenance.	X		
5. Has DENR has been notified of previous bypasses? List bypasses reported since last inspection. October 2013 bypassed some of the plant because of power loss. January 2014 bypassed head works because of gearbox failure.			
6. Does the treatment facility have adequate capacity to protect against hydraulic or organic overloads? How do you evaluate the capacity? Average flow rate 9.84 MGD. Design flow rate 15 MGD. Hydraulically the plant can handle 40 MGD.	X		

Plant Performance

1. Is the facility a continuous discharger? If not, explain: _____
2. Has the facility been in compliance with all effluent limits since the last inspection? If no, list violations:
The facility had a fecal violation on August 5, 2014. The facility was experiencing problems with the UV system.

Yes	No	N/A
X		
	X	

Comments on plant performance: The facility plans on updating its UV system to a size that would be more adequate for the system.

IX. Self Monitoring / Sampling Evaluation

Self Monitoring Table

Insert Sampling Frequency Below			
Parameter	Influent	Effluent	Test Method and Comments
Alkalinity			
Ammonia		3x week	4500 NH3
BOD ₅	5X week	5X week	5210 (B)
CBOD		Monthly	5210
Conductivity			
Dissolved Oxygen		5X week	4500-O-C
Fecal Coliform		3x week	9222-D
Nitrates		Monthly	E300
Oil and Grease		Daily	Visual
pH		Daily	4500-H
Total Coliform			
Total Dissolved Solids			
Total Suspended Solids	5X week	5X week	2540-D
Total Petroleum Hydrocarbons			
Total Residual Chlorine			
Water Temperature		3x week	2550
Metals (ARSD 74:52:02:42)		Quarterly	
Toxics (ARSD 74:52:02:41 and 44)		Annually	
Whole Effluent Toxicity		Quarterly	
Other			

	Yes	No	N/A
1. Are the minimum self monitoring requirements of the permit met? If no, explain: _____	X		
2. Are they sampling more than required and submitting all sample data? How often? Temperature, pH, and DO are monitored continuously. Ammonia 7 days/week.	X		
3. Are samples collected at the location(s) described in the SWD permit?	X		
4. Are flow proportioned samples obtained where required? If no, explain why not. _____	X		
5. Is the permittee using the method of sample collection specified in the permit?	X		
6. Do the methods used for collection, preservation, and analysis conform to 40 CFR 136?	X		
7. Is a written laboratory quality assurance manual available, if the facility conducts its own testing?	X		
8. Is the pH meter properly calibrated? How often? Before each use.	X		
9. Is a pH calibration log maintained?	X		
10. Is pH analyzed within 15 minutes of sample collection?	X		
11. Does the pH meter meet DENR specifications?			
a. Two point calibration?	X		
b. Temperature compensation?	X		
c. Does it read to two decimal places?	X		
12. Are other laboratory instruments and equipment calibrated and maintained?	X		
13. Is an off-site lab used for analysis of some or all sampling required? If so, indicate parameters and the laboratory in the table below.	X		
14. Does the permittee follow appropriate chain of custody and sample preservation procedures?	X		

Parameters	Nitrates, metals, organics, biosolids, and compost testing.		
Laboratory Name	Energy Laboratories, Inc.	MinnValley Testing Lab	Soil Control Lab
Address	2821 Plant St. Rapid City, SD 57702	1126 North St. New Ulm, MN 56073	42 Hangar Way Watsonville, CA 95076
Contact	Linda Larson		Frank Shields
Phone	(605) 342-1225	800-782-3587	831-724-5422

Effluent Violations

1. Has the facility discharged since the last inspection? If yes, list how many. _____
2. Is the facility in compliance with all effluent limits since the last inspection?
 - a. Effluent BOD5 violations. If yes, how many? _____
 - b. Effluent TSS violations. If yes, how many? _____
 - c. Effluent pH violations. If yes, how many? _____
 - d. Effluent conductivity violations. If yes, how many? _____
 - e. Effluent temperature violations. If yes, how many? _____
 - f. Effluent TRC violations. If yes, how many? _____
 - g. Effluent WET violations. If yes, how many? _____
 - h. Other violations. If yes, list parameter and number of occurrences. Fecal violation on August 5, 2014.

Yes	No	N/A
X		
	X	
	X	
	X	
	X	
		X
	X	
X		

Comments on self-monitoring and sampling: The facility has had one effluent violation since the last inspection. The fecal violation on August 5, 2014, occurred because of problems with the UV system. The facility has had the UV system assessed and is working on a project to install a larger system.

X. Whole Effluent Toxicity

1. Is the permittee required to conduct Whole Effluent Toxicity testing as a requirement of the permit? If yes, is testing acute or chronic? Chronic
2. Is the permittee allowed to alternate species?
3. Does the permittee maintain copies of WET lab reports on site for required 3 year period and make them available for review by inspectors?
4. Is the permittee submitting actual WET test results along with DMRs? If no, please explain. _____
5. Does the permittee follow appropriate chain of custody and sample preservation procedures?
6. Has the permittee had WET violations or invalid tests since last inspection? If yes, explain. _____
7. Has the facility conducted a TIE/TRE for WET violations? If so, discuss the findings: No

Yes	No	N/A
X		
X		
X		
	X	

Whole Effluent Toxicity Laboratory Information	
Name	WAMCO Laboratories
Address	864 S. Spruce St., Casper, Wyoming
Contact	Elaine Gold
Phone	(307) 266-3253

Comments concerning Whole Effluent Toxicity: The facility has not had any WET violations.

XI. Flow Measurement

Primary Influent Flow Measurement

A. General

1. Type of primary flow measurement device: Parshall flume
2. Is the influent flow measured before all return lines?
3. Are the proper flow tables used by facility personnel?
4. Is the flow measurement equipment adequate to handle expected ranges of flow rate?

Yes	No	N/A
X		
X		
X		

B. Open Channel Primary Flow Measuring Devices

Flumes

1. Type and size of flume(s): 48 inch Parshall Flume
2. Is the flume located in a straight section of the open channel, without bends immediately upstream or downstream?
3. Is flow entering the flume reasonably well distributed across the channel and free of turbulence, boils, or other distortions?
4. Is the flume clean and free of obstructions, debris, or deposits?
5. Is flume head being measured at proper location? (Refer to NPDES compliance inspection manual or ISCO book for proper measuring location.)
6. Is the flume under free flow conditions at all times? (Flume is not submerged.)

Yes	No	N/A
X		
X		
X		
X		
X		

Secondary Influent Flow Measurement

A. General

1. Are proper flow records maintained for the secondary device?
2. Is the secondary device calibrated? What is the frequency of device calibration?
Quarterly

Yes	No	N/A
X		
X		

3. Are secondary instruments properly operated, calibrated, and maintained?
4. Are flow measurements from secondary device within 10% of observed flow in primary?

Yes	No	N/A
X		
X		

Comments on influent flow measurement: A Flo-Dar AV Sensor and metering pit have been installed for secondary flow measurement.

Primary Effluent Flow Measurement

A. General

1. Type of primary flow measurement device: Parshall flume
2. Is flow measured at each outfall? Number of outfalls: One
3. Is effluent flow measured after all return lines?
4. Are the proper flow tables used by facility personnel?
5. Is the flow measurement equipment adequate to handle expected ranges of flow rate?

Yes	No	N/A
X		
X		
X		
X		

Comments:

B. Open Channel Primary Flow Measuring Devices

Flumes

1. Type and size of flume(s): 60 inch Parshall Flume
2. Is the flume located in a straight section of the open channel, without bends immediately upstream or downstream?
3. Is flow entering the flume reasonably well distributed across the channel and free of turbulence, boils, or other distortions?
4. Is the flume clean and free of obstructions, debris, or deposits?
5. Is flume head being measured at proper location? (Refer to NPDES compliance inspection manual or ISCO book for proper measuring location.)
6. Is the flume under free flow conditions at all times? (Flume is not submerged.)

Yes	No	N/A
X		
X		
X		
X		

Secondary Effluent Flow Measurement

A. General

1. Are proper flow records maintained for the secondary device?
2. Is the secondary device calibrated? What is the frequency of device calibration?
Quarterly
3. Are secondary instruments properly operated, calibrated, and maintained?
4. Are flow measurements from secondary device within 10% of observed flow in primary?

Yes	No	N/A
X		
X		
X		
X		

XII. Site Visual Inspection / Treatment Processes

Provide a general description of applicable treatment processes, along with comments relating to the operation, condition of equipment, observations, and any changes made since the last inspection.

A. General Appearance

Comments: The facility is very clean and well maintained.

B. Safety Features

1. Are procedures established for identifying out-of-service equipment? What are they?
Lockout/Tagout
2. Is personal protective equipment provided for employees (safety helmets, hearing protection, eye protection, gloves, rubber boots with steel toes)?
4. Are laboratory safety devices (eyewash and shower, fume hood, proper labeling and storage) available?
5. Does the plant have general safety features such as rails around or covers over tanks, pits, and wells? Is the treatment plant enclosed by a fence?
6. Are portable hoists available for equipment removal?
7. Are warning signs (no smoking, high voltage, watch-your-step, and exit) posted?
8. Are emergency phone numbers listed?
9. Is the plant generally clean and free from open trash areas?
10. Are MSDS, as applicable, accessible by employees?

Yes	No	N/A
X		
X		
X		
X		
X		
X		
X		

Comments: Safety signs, safety features, and hoists for equipment removal could be seen throughout the facility.

C. **Primary Treatment**

Comments: See changes described in the facility description.

Odor Issues: Odor is not significant.

Disposal of Screenings: Rapid City Landfill

Effluent Destination: Primary Clarifiers (North Plant) or Aeration Basin (South Plant)

(North Plant)

D. **Primary Clarifiers**

Comments: No problems noted.

Cleaning/Maintenance Schedule: Weirs are checked on a weekly basis and cleaned as needed. Clarifiers are pulled down annually and thoroughly cleaned (Picture #2).

Effluent Destination: Trickling Filters

E. **Trickling Filters**

Comments: Timing checked weekly. Bi-monthly cleaning. Leveled and greased annually (Picture #3).

Ponding Problems: None

Effluent Destination: Secondary Clarifiers

F. **Secondary Clarifiers**

Comments: No problems noted (Picture #4).

Settling Characteristics (Poor, clumping, or pin floc): Good settling.

Cleaning/Maintenance Schedule: Weirs are checked on a weekly basis and cleaned as needed. Clarifiers are pulled down annually and thoroughly cleaned.

Effluent Destination: RBCs

G. **Rotating Biological Contactors**

Comments: Timing is checked monthly. Each cell is weighed quarterly.

Sloughing Problems: None

Effluent Destination: Tertiary Clarifier

H. **Tertiary Clarifier**

Comments: Wier channels are now covered (Pictures #5 and #6).

Settling Characteristics (Poor, clumping, or pin floc): No problems noted.

Cleaning/Maintenance Schedule: Weirs are checked on a weekly basis and cleaned as needed. Clarifiers are pulled down annually and thoroughly cleaned.

Effluent Destination: UV Disinfection

(South Plant)

I. **Aeration Basins**

Comments: No problems noted (Pictures #7 and #8).

Billowing Air Pockets / Blowouts: None

Heavy Foam / Filamentous Bacteria: None

Spare Parts: The facility keeps many spare parts on hand.

Effluent Destination: Clarifier

J. **Clarifier**

Comments: Covers were placed on the weirs in July (Pictures #9 and #10).

Cleaning/Maintenance Schedule: Weirs are checked on a weekly basis and cleaned as needed. Clarifiers are pulled down annually and thoroughly cleaned.

Effluent Destination: Trickling Filters

K. **Ultra-violet Disinfection**

Comments: No problems noted (Picture #11).

Effluent Destination: Outfall 001 (Picture #12).

L. **Sludge**

Comments: Facility makes both Class A and Class B biosolids.

Sludge disposal method (land application, injection, landfill, etc): Co-composted and landfilled.

For Office Use Only

Rating: S M U

Other: MOD ASSIST SEV ENF

Name of Inspector

Signature

Affiliation / Phone

Date

Douglas Baldwin



SDDENR / (605) 394-2229

10/20/2014


Name of Reviewer

Signature

Affiliation / Phone

Date

Albert Spangler, P.E.



SDDENR / (605) 773-3351

10/20/2014



Picture #1



Picture #2



Picture #3



Picture #4



Picture #5



Picture #6



Picture #7



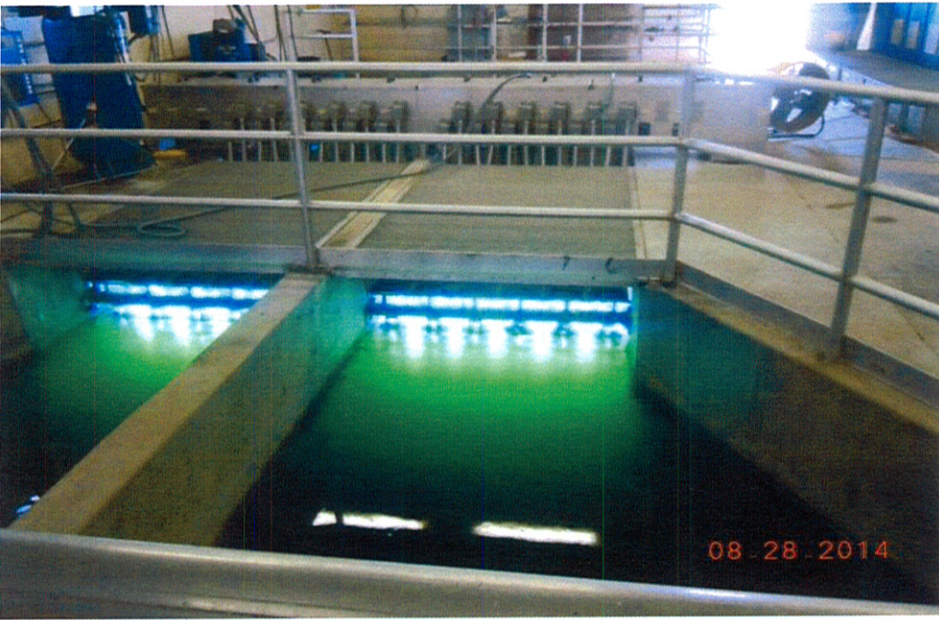
Picture #8



Picture #9



Picture #10



Picture #11



Picture #12