EPA United States Environmental Protection Agency

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	7/31/2018		
Media:	Water		
Regulatory Program(s)	CWA – NPDES		
Company Name:	**City of Ruidoso Downs and Village of Ruidoso**		
Facility Name:	**Ruidoso/Ruidoso Downs WWTP**		
Facility Physical Location:	26675 U.S. Highway 70		
(city, state, zip code)	Ruidoso Downs, New Mexico		
Mailing address:	313 Cree Meadows Drive		
(city, state, zip code)	Ruidoso, NM 88345		
County/Parish:	Lincoln County		
Facility Contact:	Lynn Crawford	Mayor	
	LynnCrawford@ruidoso-nm.gov		
FRS Number:	110010721950		
Identification/Permit Number:	NM0029165		
Media Number:			
NAICS:	221320		
SIC:	4952		
Personnel participating in inspection:			
Amy Andrews, P.E.	USEPA/6EN-WMH	Environmental Engineer	214-907-0638
Jennifer Foote	NMED/Point Source Regulation	Inspector	505-827-0596
Isaac Garcia	Ruidoso/Ruidoso Downs	Wastewater Treatment Facility Director	575-258-4343 x1244
EPA Lead Inspector Signature/Date	AMY ANDREWS Digitally signed by AMY ANDREWS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=AMY ANDREWS, dnQualifier=0000131170 Date: 2018.10.11 11:04:23 -06'00'		
	Amy Andrews		Date
Supervisor Signature/Date	CAROL PETERS-WAGNON Digitally signed by CAROL PETERS-WAGNON DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=CAROL PETERS-WAGNON, dnQualifier=0000009981 Date: 2018.10.11 13:10:21 -05'00'		
	Carol Peters		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

Environmental Protection Agency (EPA) Region 6 inspector Amy Andrews New Mexico Environment (NMED) inspector Jennifer Foote arrived at the City of Ruidoso Downs and Village of Ruidoso Wastewater Treatment Plant (WWTP) at 11:15 AM on August 28, 2018 for an unannounced inspection. We met with Isaac Garcia, Ruidoso/Ruidoso WWTP Facility Director. I presented my credentials to Mr. Garcia and informed him that this was an EPA inspection to determine compliance with the facility's National Pollutant Discharge Elimination System (NPDES) permit and the Clean Water Act (CWA). The inspection was conducted under the authority of the NPDES permit program, in accordance with the Federal CWA. This report is based on information supplied by Ruidoso/Ruidoso Downs WWTP representatives (the permittee), observations made by the EPA inspector, and records and reports maintained by the permittee and the EPA. Ms. Foote conducted a concurrent inspection of the facility's stormwater multi-sector general permit (MSGP), which will be detailed in a separate report.

FACILITY DESCRIPTION

The Ruidoso/Ruidoso Downs WWTP was placed online in April 2011, is classified as a major municipal discharger. The facility has a permitted design flow capacity of 2.7 million gallons per day (MGD), however Mr. Garcia stated that the facility can handle only an influent flow rate of up to 2.5 MGD and will use the equalization (EQ) and aeration basins from the old plant to slow the rate of flow through the plant to 2.0 MGD. Average actual discharge is around 1.6 MGD. Discharge is to the Rio Ruidoso in Segment 20.6.4.209 of the Pecos River Basin, according to the *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC*. This segment includes the designated uses of domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat, public water supply and primary contact.

Influent enters the facility through a 24-inch line to the influent lift station. The influent lift station is equipped with four Flygt influent pumps, which are each capable of handling a 3.0 MGD flow. There is a dedicated backup generator for the influent pumps. The flow travels from the influent pump station into the facility through a 12 inch Parshall flume and Magmaster flow meter. It is then conveyed to the coarse bar screen. The bar screen is a mechanical Ovivo bar screen with 0.25" openings. The bar screen is set on a float timer, but also has a regular timer for redundancy. The course screening facility is equipped with an emergency bypass. The screenings are sent to a hopper located next to the screen and materials are taken to the landfill. After the coarse materials are removed from the influent, the flow enters a Smith & Loveless grit chamber. The grit is also sent to a hopper which is then taken to the landfill after drying. At this point, the operators have the capability to send flows that are over 1400 gallons per minute (gpm) to the EQ basin. The current EQ basin consists of the old aeration basins from the old facility. The facility has 660,000 gallons of storage available to them here. If there is influent

in the EQ basin, it is bled back into the plant prior to the grit/fines removal when the influent flow is less than 700 gpm. After the grit chamber, the flow enters the fine screens. The screens are equipped with a 0.3mm opening. The screened material then goes through a rinsing process and is then sent to compactors and the grit classifier, while the filtrate continues through the rest of the plant. After this filtration process, the nitrogen is typically less than 3 mg/L, according to the facility's representatives.

The filtered influent then proceeds to biological treatment. This plant is designed as an intensive nutrient removal MBR (membrane bioreactor), and consequently, the wastewater is sent through a number of specialized chambers prior to entering the membranes. The first chamber the wastewater enters in this phase is an anaerobic selector, which functions specifically for bio-phosphorus removal. From this area, the wastewater then flows into a de-oxygenation basin, where it is then mixed with RAS (return activated sludge). The wastewater is then sent to the pre-anoxic zone. This basin is equipped with submersible mixers to keep the solids in suspension while maintaining anoxic conditions. Next is the pre-aeration basin, which is equipped with fine bubble diffusers to facilitate nitrogen stripping. Yet another anoxic zone (referred to as the post-anoxic zone) is the next step after the pre-aeration basin. Facility operators have the option to add aluminum sulfate or methanol if needed to further reduce nitrogen and phosphorus levels in the wastewater. Solids from the post-anoxic basin are recycled back to the anaerobic basin to add food for the bio-phosphorus removal process. Currently, facility staff is relying on the biological methodology to remove as many nutrients as possible and are not adding chemicals.

At this point, the wastewater is sent to the MBR basins. There are three MBR trains, each capable of treating 900,000 gallons each. There is the capability to build the plant out to accommodate another train (capable of treating another 900,000 gallons) if the facility needs to do so in the future – there is an empty MBR basin at this time. Within each MBR basin, there are eight lower and eight upper cassettes. Each cassette contains 200 filters, which means there are approximately 3,200 filters in each basin (19,200 filters in total). These filters are equipped with a 10 year warranty. The MBR basins are where biological treatment as well as more filtration of the wastewater occurs. From the MBR basins, the treated wastewater is conveyed to the UV disinfection facility. This facility is equipped with two UV banks, one of which is currently online. After disinfection, the effluent is pumped into the washwater wet well. Any effluent not pumped here then travels through an 18 inch Parshall flume and through an 18 inch line to the Rio Ruidoso.

WAS (waste activated sludge) is removed from the MBR and sent to the thickener. The thickener, with the assistance of a polymer, thickens the sludge to about 2.5-3%, and is then sent to the digester for stabilization. The digester contains 3 cells (and can be expanded to 4 cells if needed in the future). From the digester, sludge is sent to the belt filter press, and is then transferred outside. The facility typically wastes five days a week and runs their filter press two days per week.

Section II - OBSERVATIONS

After the opening conference, we began the inspection with a tour of the WWTP. The facility is aware of and in the process of addressing the significant inflow and infiltration (I/I) problem from old sewer pipes that cross the Rio Ruidoso many times, and a lack of quality maps showing the locations of these pipes. Currently maintenance issues include problems with the SCADA system (which is down in the west electrical building, but is working in the main control room, the vortex grit pump doesn't work well when the weather turns cold and it has difficulty with pine needles (from I/I) and twine, and one of the UV banks is non-operational.

The digester is currently killing off too many of the microbes needed for composting, and the sludge (also called biosolids) is not heating up enough to kill off pathogens and meet the requirements of Class A biosolids. The facility used to give away biosolids for beneficial use, but stopped several months ago due to this issue. Currently sludge is being stockpiled onsite, with future plans to send it to the Oro Grande Landfill. The facility will need to give prior notice of planned changes in the sewage sludge disposal practice as described in NPDES Permit NM0029165, Part IV, Element 3, Section I.4.

The inspection continued with a tour of the onsite laboratory. The laboratory was clean and well maintained, with appropriate Standard Operating Procedure (SOP) documents available. Mr. Garcia stated that they analyze samples in-house for Biochemical Oxygen Demand (BOD), Total suspended Solids (TSS), and E. coli. All other pollutants (including total phosphorus and total nitrogen) are sent to Hall Environmental in Albuquerque, and Whole Effluent Toxicity testing is sent to Bio-Aquatic Testing, Inc., in Carrollton, TX.

It was noted that the sampling requirement in NPDES Permit NM0029165, Part I: A.1. requires BOD and TSS sample type to be a 6-hour (flow-weighted) composite sample, which is required to begin sampling at no earlier than 10:00 AM. The permittee is sampling the effluent as a 24-hour (flow-weighted) composite sample starting at 8:00 AM, and sampling the influent as a 6-hour (flow-weighted) composite sample starting at 10:00 AM. The permittee should be aware that they are conducting monitoring that is more stringent than the requirements, which is allowed, but if a violation occurs in the future, this cannot be used as an argument that it was not have otherwise been a violation.

Section III – AREAS OF CONCERN

Requirement 1

NPDES Permit NM0020681: Part III.C.5. Monitoring Procedures b. *The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*

Concern 1A

There was a considerable amount of turbulence inside the effluent Parshall Flume, including the location where the secondary ultrasonic flow meter was reading. Permittee indicated that regular (monthly) checks of the ultrasonic meter against the reading in the Parshall Flume are not conducted.

Requirement 2

NPDES Permit NM0029165, Part III: C.2. Representative Sampling: *Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.*

Concern 2

Sampling for total nitrogen and total phosphorus is typically collected on three consecutive days each month, instead of spread out over the month. It is possible that the samples are not representative of the entire process if there are variations in the wastewater stream throughout the month.

Requirement 2

NPDES Permit NM0029165, Part III: A.9. Oil and Hazardous Substance Liability: *Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the [Clean Water] Act.*

Concern 2

Aluminum sulfate (also called “alum”) is currently used at a rate of 500 gallons per day for phosphorus removal in the treatment process. During the tank filling process, aluminum sulfate has been spilled onto the ground repeatedly, in quantities large enough to leave a visible residue, and facility personnel report that the delivery truck drivers rinse off the tank fill pipe into a nearby storm drain. Aluminum sulfate is toxic to aquatic life, causes human health problems, and reacts with water to form sulfuric acid.

Requirement 3

40 CFR 112.1(b): (Spill Prevention, Control, and Countermeasure Plan) ...this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines...A facility is covered by the SPCC rule if it has an aggregate aboveground oil storage capacity greater than 1,320 U.S. gallons or a completely buried storage capacity greater than

42,000 U.S. gallons and there is a reasonable expectation of an oil discharge into or upon navigable waters of the U.S. or adjoining shorelines.
40 CFR 112.3: The owner or operator or an onshore or offshore facility subject to this section must prepare in writing and implement a Spill Prevention Control and Countermeasure Plan (hereafter "SPCC Plan" or "Plan")," in accordance with §112.7 and any other applicable section of this part.
Concern 3
Mr. Garcia indicated that they had recently purchased a new backup generator for the facility. This generator has a capacity of 1637 gallons, therefore the facility is now above the required capacity to implement an SPCC Plan.

Section IV – FOLLOW UP

No information was received by EPA after exiting the Facility on 8/28/2018.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 5 photos taken 8/28/2018

Appendix 1
Photograph Log

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: City of Ruidoso Downs and Village of Ruidoso WWTP		
City: Ruidoso Downs	County/Parish: Lincoln	State: New Mexico

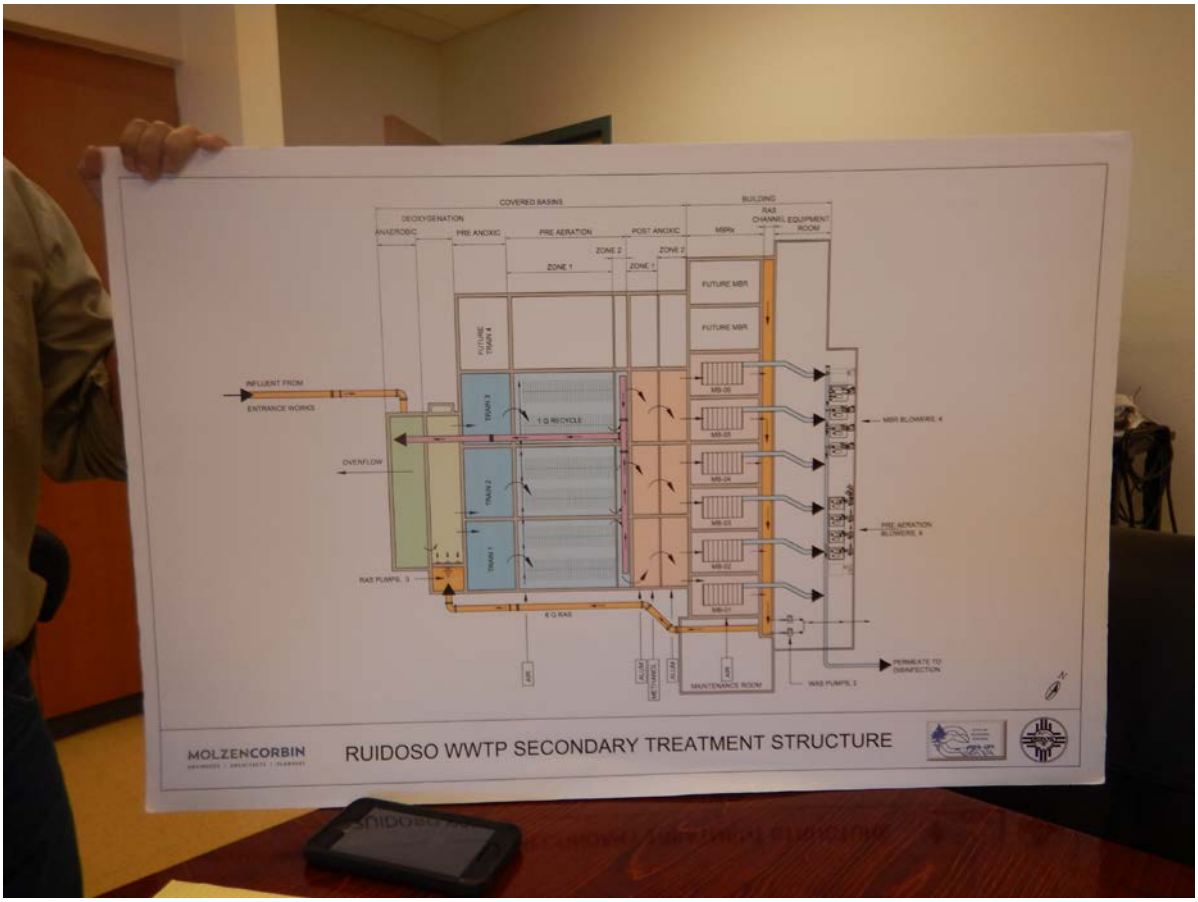

Photo File Name: DSCN0604.JPG
Date of Photo: 8/28/2018
Time of Photo: 11:28 AM
Photographer: Amy Andrews
Description: Diagram showing the Ruidoso/Ruidoso Downs WWTP secondary treatment structure.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: City of Ruidoso Downs and Village of Ruidoso WWTP		
City: Ruidoso Downs	County/Parish: Lincoln	State: New Mexico

Photo File Name: DSCN0620.JPG
Date of Photo: 8/28/2018
Time of Photo: 1:18 AM
Photographer: Amy Andrews
Description: Tank of aluminum sulfate (alum) used to remove phosphorus in the treatment process.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: City of Ruidoso Downs and Village of Ruidoso WWTP		
City: Ruidoso Downs	County/Parish: Lincoln	State: New Mexico

Photo File Name: DSCN0621.JPG
Date of Photo: 8/28/2018
Time of Photo: 1:19 AM
Photographer: Amy Andrews
Description: Corrosion in the concrete where aluminum sulfate has been spilled

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: City of Ruidoso Downs and Village of Ruidoso WWTP		
City: Ruidoso Downs	County/Parish: Lincoln	State: New Mexico

Photo File Name: DSCN0623.JPG
Date of Photo: 8/28/2018
Time of Photo: 1:19 AM
Photographer: Amy Andrews
Description: Visible aluminum sulfate residue is present on the ground between the culvert and the storm drain.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: City of Ruidoso Downs and Village of Ruidoso WWTP		
City: Ruidoso Downs	County/Parish: Lincoln	State: New Mexico

Photo File Name: DSCN0634.JPG
Date of Photo: 8/28/2018
Time of Photo: 1:32 AM
Photographer: Amy Andrews
Description: Turbulence visible at the measurement point in the effluent Parshall Flume.