FOR THE DRAFT NPDES PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

City of Belen WWTP
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ISSUING OFFICE

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DATE PREPARED

01/22/2020

PERMIT ACTION

Draft reissuance of the current NPDES permit issued February 17, 2015, with an effective date of March1, 2015, and an expiration date of February 29, 2020. Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed in Title 40, Code of Federal Regulations, revised as of January 17, 2020.

RECEIVING WATER – BASIN

Receiving waters named Bosque Drain, thence to the Rio Grande, in Segment No. 20.6.4.105 of the Rio Grande Basin.

DOCUMENT ABBREVIATIONS

For brevity, Region 6 used acronyms and abbreviated terminology in this fact sheet document whenever possible. The following acronyms were used frequently in this document:

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
DO	Dissolved oxygen
DWS	Domestic Water Supply
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FWS	United States Fish and Wildlife Service
mg/l	Milligrams per liter
ug/l	Micrograms per liter
lbs	Pounds
MG	Million gallons
MGD	Million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
POTW	Publicly owned treatment works
RP	Reasonable potential
SS	Settleable solids
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USGS	United States Geological Service
WLA	Waste Load allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued February 17, 2015, with an effective date of March 1, 2015, and an expiration date of February 29, 2020:

1. Added monitoring requirements and a compliance schedule for nitrate and dichlorobromomethane. This is based on RP analysis to cause or contribute to violations of State WQS.

A. APPLICANT LOCATION and ACTIVITY

The facility is located at 1300 Conservancy Road in the city of Belen, NM. The effluent from the site is discharged into the Bosque Drain, thence into the Rio Grande in water quality Segment No. 20.6.4.105 NMAC of the Middle Rio Grande Basin. The discharge is located on that water at Latitude 34º 38' 32" North and Longitude 106º 46' 36" West in Valencia County, NM. The city of Belen water source comes from the San Juan Aquifer according to the Belen 2017 Water Quality Report.

Under SIC Code 4952, the discharge is from a POTW. The treatment processes include bar screen, grit tank, aeration basin, secondary clarifier, chlorine contact chamber. The current design flow is 1.2 MGD. The general and specific stream standards are provided in " NMWQS," (20.6.4 NMAC, effective September 12, 2018). The receiving Waterbody, Segment No. 20.6.4.105, has designated uses of irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat and primary contact. Based on previous NMED staff observations of the outfall location and an evaluation of readily available imagery, flow from the outfall would be toward Bosque Drain, thence to the Segment 20.6.4.105 NMAC of the Rio Grande Basin.

B. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A are presented below:

Parameter	Average	Maximum
Flow, million gallons/day (MGD)	0.42	1.20
Temperature, winter (°C)	16.8	18.2
Temperature, summer (°C)	21.8	25.2
pH, minimum, (s.u.) / pH, maximum, (s.u.)	NA%	7.19 / 7.50
Nitrate (as N) mg/L	33.31	35
Biochemical Oxygen Demand, 5-day (BOD_5) mg/L	3.5	5.11
E. Coli (cfu /100 mL)	5.67	7.0
Total Suspended Solids (TSS) mg/L	5.62	10.27
Ammonia (NH_3) mg/L	ND#	ND#
Chlorine, Total Residual (TRC) mg/L	ND#	ND#
Dissolved Oxygen mg/L	6.93	6.31
Total Kjeldahl Nitrogen (TKN) mg/L	ND#	ND#
Nitrate plus Nitrite Nitrogen mg/L	33.33	24.67
Oil and grease mg/L	ND#	ND#
Phosphorus, Total mg/L	4.33	3.02
Total Dissolved Solids (TDS) mg/L	777.33	780
Hardness (as $CaCO_3$) mg/L	169.80	180
# Not detected at the reporting limit; % Not available		

Effluent characteristics indicate that the following total recoverable metals were detected in the discharge:

Pollutant	Concentration. (ug/L)	Pollutant	Concentration. (ug/L)
Arsenic	4.6	Copper	4.4
Selenium	1.3*	Zinc	33
Bromoform	1.6*	Chlorodibromomethane	12
Chloroform	25.0*	Dichlorobromomethane	21
2,4,6-trichlorophenol	0.21	* Concentrations below MQLs	

On September 11, 2019, a Compliance Evaluation Inspection (CEI) was conducted at the Belen WWTP by the NMED, Surface Water Quality Bureau (SWQB). The purpose of this inspection is to determine compliance with the NPDES permitting program in accordance with requirements of the federal CWA. As part of this inspection the DMRs were reviewed to determine if any excursions of the NPDES permit limits took place since the current permit was issued. Two excursions (30 and 40 ug/L) of the 19 ug/L total residual chlorine daily maximum limit were reported on August 31 and September 30, 2019.

C. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”; more commonly known as the “swimmable, fishable” goal.

Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered the NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit will expire on February 29, 2020. EPA received the NPDES application on October 18, 2019. The existing permit is administratively continued until this permit is issued.

D. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

1. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit. Technology-based effluent limitations are established in the draft permit for TSS and BOD_5. Water quality-based effluent limitations are established in the draft permit for pH, *E. coli* bacteria, and TRC.

2. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD5, TSS, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Some biological treatment technologies, such as waste stabilization ponds, can achieve significant reductions in BOD_5 and TSS but might not consistently achieve the secondary treatment standards for these parameters. Congress recognized that unless alternate limitations were set for facilities with waste stabilization ponds, which often are in small communities, such facilities could be required to construct costly new treatment systems to meet the secondary treatment standards even though their existing treatment technologies could achieve significant biological treatment.

To prevent requiring upgrades where facilities were achieving their original design performance levels, Congress included provisions in the 1981 amendments to the CWA Construction Grants program (*Public Law 97-117, Section 23*) that required EPA to make allowances for alternative biological treatment technologies, such as waste stabilization ponds. In response to that requirement, in 1984, EPA promulgated regulations at § 133.105 that include alternative standards that apply to facilities using “equivalent to secondary treatment.” A facility must meet the criteria in § 133.101(g) to qualify for application of those alternative standards.

Secondary treatment for POTW, established at [40 CFR 133.102(a)] and [40 CFR 133.102(b)], are 30 mg/L for the 30-day average and 45 mg/L for the 7day average and 85% percent (minimum) for BOD_5 and TSS each and a pH range of 6.0 – 9.0. When determining mass limits for POTW’s, the plant’s design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/L * 8.34 conversion factor * design flow in MGD

30-Day Avg. BOD_5 loading (lbs/day) = 30 mg/L * 8.345 lbs/gal * 1.2 MGD = 300.42 lbs/day

7-Day Avg. BOD_5 loading (lbs/day) = 45 mg/L * 8.345 lbs/gal * 1.2 MGD = 450.63 lbs/day

30-Day Avg. TSS loading (lbs/day) = 30 mg/L * 8.345 lbs/gal * 1.2 MGD = 00.42lbs/day

7-Day Avg. TSS loading (lbs/day) = 45 mg/L * 8.345 lbs/gal * 1.2 MGD = 450.63 lbs/day

A summary of the technology-based limits for the facility is:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		
Parameter	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD5	300 lbs/day	450 lbs/day	30 mg/L	45
TSS	300 lbs/day	450 lbs/day	30 mg/L	45
BOD and TSS removal	≥85%	N/A	N/A	N/A
pH	Within the limit of 6.0-9.0			

3. WATER QUALITY-BASED LIMITATIONS

a. General Comments

Water quality-based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit follow applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained or attained.

b. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

c. State Water Quality Standards

Stated previously, the effluent from the site is discharged into the Bosque Drain, thence into the Rio Grande in water quality Segment No. 20.6.4.105 of the Middle Rio Grande Basin. Based on the NMWQS, 20.6.4 NMAC (effective September 12, 2018), the designated uses of the receiving water are irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat and primary contact.

d. Permit Action - Water Quality-Based Limits

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at [40 CFR 122.44 (d)] state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. Regulations promulgated at [40 CFR 122.44(d)] require limits in addition to or more stringent than effluent limitation guidelines (technology based). In accordance with 20.6.4 NMAC, the permit must be developed to allow for the maintenance and attainment of acute numerical criteria at the point of discharge to the receiving stream and for the maintenance and attainment of chronic numerical criteria at the edge of the mixing zone.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity and alkalinity will be documented in a full report, according to the appropriate test method publication. The full reports required by each test section do not need to be submitted unless requested. However, the full report is to be retained following the provisions of [40 CFR Part 122.41 (j) (2)]. The permit requires the submission of the toxicity testing information to be included on the DMR.

1) pH

For water segment 20.6.4.105 NMAC, there is a specific WQS range for pH, so a pH range of 6.6 – 9.0 is established based on the water segment-specific criteria.

2) Bacteria

The e. *coli* bacteria limitations of 126 cfu/100 mL monthly geometric mean and 410 cfu/100 mL daily maximum are established at 20.6.4.105 NMAC for primary contact. These limitations shall be established in the draft permit and this will provide appropriate control for contribution of bacteria to the stream.

3) Toxics

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the RP to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs and to facilities that are like POTWs, but those facilities, which do not meet the regulatory definition of POTW (like privately owned sanitary wastewater treatment facility, or similar facilities on Federal property). The forms were designed and promulgated to "make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities," per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

Detected effluent data were screened against the EPA approved (August 11, 2017) NMWQS. Based on information provided by the NMED, the critical low flow for discharge stream, 4Q3, is 7.63 cfs, and the harmonic mean flow is 68.15 cfs [USGS gage 08331510 (Rio Grande at State Hwy 346 Near Bosque, NM) is below the WWTP, so the NMED subtracted the design flow of the plant from the 4Q3 and HM, resulting in revised values of: 4Q3: 9.48 cfs – 1.85 cfs (1.2 MGD) = 7.63 cfs; HM: 70.0 cfs – 1.85 cfs = 68.15 cfs]. Based on the stream geometric mean TSS, 249.901 mg/L; geometric mean stream hardness, 154.919 mg/L; 4Q3 flow, 7.63 cfs; and harmonic mean flow, 68.15 cfs, the discharge has RP to cause or contribute to violations of State WQS for Nitrate (10 ug/L) and Dichlorobromomethane (5.6 ug/L) for DWS designated use of stream. Since other downstream entities may use stream water for potable purposes, the numeric criteria in 20.6.4 NMAC applicable to DWS for these two pollutants will be set as monitoring limits in the compliance schedule. There are no other toxics that need to be placed in the draft permit except for TRC as described below. The RP screening spread sheet is attached.

ii. Total Residual Chlorine

The current permit established water quality-based effluent limitations for TRC of 19 ug/L. This requirement will be maintained in the draft permit.

iii. Critical Conditions

CDs are used to establish certain permit limitations and conditions. The State of New Mexico WQS allows a mixing zone for establishing pollutant limits in discharges. The mixing zones established by the State of New Mexico do not overlap with tribal/pueblo boarders.

Both the NMWQS and NMIP establish a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years. A low flow, or 4Q3, of 7.63 cfs was provided by NMED.

For permitting purposes of certain parameters such as WET, the critical dilution of the effluent to the receiving stream is determined. The critical dilution, CD, is calculated as:

CD = Qe / (F·Qa + Qe), where:
Qe = facility flow (1.2 MGD)
Qa = critical low flow of the receiving waters (7.63 cfs = 4.1062 MGD])
F = fraction of stream allowed for mixing (1.0)
CD = 1.2 MGD / [(1.0) (4.1062 + 1.2] = 1.2 MGD / 5.3062 MGD = 0.2262 * 100 = 22.62% ≈ 23%

According to the NMIP, it is determined that a facility is to receive chronic biomonitoring requirements at a critical dilution of 10% or more.

4) Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [40 CFR 122.48(b)] and to assure compliance with permit limitations [40 CFR 122.44(i)(1)]. Monitoring frequencies in the current permit are retained: three times per week for pH, BOD_5, TSS, e. coli, nitrate and dichlorobromomethane, and daily for TRC. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

5) Whole Effluent Toxicity Limitations

In Section D.3.d.3) iii above; “Critical Conditions”, it was shown that the CD for the facility is 23%. Based on the nature of the discharge; POTW, the design flow; greater than 1 MGD, the nature of the receiving water; perennial, and the CD; 23%, the NMIP directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow) a once per quarter frequency. The Belen Drain has a 4Q3 of 4.1062 MGD; therefore, the critical dilution is 23%. The draft permit proposes the following tests with a dilution series of 10%, 13%, 17%, 23%, and 31% in addition to the control (0% effluent).

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - Belen Drain, a perennial stream, thence to the Rio Grande River in Segment 20.6.4.105 NMEC of the Middle Rio Grande Basin. Discharges shall

be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	**DISCHARGE LIMITATION**	**MONITORING REQUIREMENT**	
WET Testing (7-day Static Renewal)[1,2,3]	Value	Frequency	Type
Ceriodaphnia dubia	Report	Once/Quarter	24-Hr. Composite
Pimephales promelas	Report	Once/Quarter	24-Hr. Composite

Footnotes:

1. Monitoring and reporting requirements begin on the effective date of this permit and shall be performed during the first year of the permit. See Part II, Section E, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

2. Once per quarter. If the first full year of testing, four (4) quarterly tests pass, monitoring frequency can be reduced to once per 6 months for *Ceriodaphnia dubia* and once a year for *Pimephales Promelas*. See Part II of the Permit for monitoring frequency reduction. If any test fails, testing frequency will continue at 1/quarter until the expiration date of the permit.

3. See Part II, Section F, and Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

E. FACILITY OPERATIONAL PRACTICES

1. SEWAGE SLUDGE

The permittee shall use only those sewage sludge disposal or reuse practices that comply with the federal regulations established at [40 CFR Part 503] "Standards for the Use or Disposal of Sewage Sludge." The specific requirements in the permit apply as a result of the design flow of the facility, the type of waste discharged to the collection system, and the sewage sludge disposal or reuse practice utilized by the treatment works.

2. WASTEWATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

3. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been required.

4. OPERATION AND REPORTING

The applicant is always required to operate the treatment facility at maximum efficiency; monitor the facility's discharge on a regular basis; and, report the results quarterly. The monitoring results will be available to the public.

F. 303(d) LIST

Rio Grande WQS 20.6.4.105 from the confluence at the Rio Puerco to the Isleta Pueblo boundary was listed on the "2012-2014 State of New Mexico CWA §303(d)/§305(b) Integrated Report", requiring TMDLs for not supporting primary contact and marginal warmwater aquatic life due to e. coli criterion violations. The segment specific criteria for e. coli were incorporated as effluent limitations into the current permit.

EPA approved the TMDL for the Middle Rio Grande Watershed on June 30, 2010, where the e. coli effluent limits and WLA for the Belen WWTP for e. coli were 26 cfu/100mL and 5.73X 109cfu/day, respectively. However, according to the Assessment Rationale for the 2018-2020 State of New Mexico §303(d)/ §305(b) Integrated List, Assessment Unit (AU): NM-2105_40 (WQS: 20.6.4.105) was sampled again as part of the Middle Rio Grande (2014) survey in 2016. There were 1/8 e. coli exceedance(s) at both the Bernardo near HWY 60 and Belen (309 bridge) stations. The maximum thermograph temperature was 32.9^0 C. Therefore, e. coli was removed, and temperature remains a cause of impairment. However, to protect downstream entities who may use stream water for portable purposes, e. coli effluent limits and WLA will be retained in the draft permit.

The current "2018-2020 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report" lists segment no. 20.6.4.105 as category 5/5A, which means that it is fully supporting the designated use of irrigation, livestock watering, primary contact and wildlife habitat. Public water supply designation use has not been assessed, and marginal warmwater aquatic life designation use is not supporting due to temperature (5/5A). A TMDL is underway or scheduled. The AU remains in IR Category 5A until TMDLs for all pollutants have been completed and approved by USEPA.

G. ANTIDEGRADATION

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the draft permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements and the limitations are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

H. ANTIBACKSLIDING

The draft permit is consistent with the requirements and exemption to meet Anti-backsliding provisions of the CWA, Section 402(o) and 40 CFR Part 122.44(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the current permit, unless information is available which was not available at the time of permit issuance. The draft permit maintains the limitation requirements of the current permit for BOD_5, TSS, pH and TRC and e. coli.

I. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent Valencia County listing available at US Fish and Wildlife Service (USFWS) website, https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=35061, three species are listed as endangered (E): New Mexico meadow jumping mouse (Zapus hudsonius luteus), Rio Grande silvery minnow (Hybognathus amarus) and southwestern willow flycatcher (Empidonax traillii extimus); Three are listed as threatened species (T) : Mexican spotted owl (Strix occidentalis lucida), Pecos sunflower (Helianthus paradoxus) and Yellow-Billed Cuckoo (Coccyzus americanus). Available information from the USFWS web page presents the occurrence of the listed threatened and endangered species in Valencia County as follows:

Southwestern Willow flycatcher (E) (Empidonax traillii extimus): Southwestern Willow Flycatcher's habitat occurs in riparian areas along streams, rivers, and other wetlands where dense willow, cottonwood, buttonbush and arrow-weed are present. The primary reason for decline is the reduction, degradation and

elimination of the riparian habitat. Other reasons include brood parasitism by the brown-headed cowbird and stochastic events like fire and floods that destroy fragmented populations.

Rio Grande Silvery minnow (E) (Hybognathus amarus): The **Rio Grande Silvery Minnow** is a small herbivorous North American fish. It is one of the seven North American members of the genus *Hybognathus*, in the cyprinid family. It was once abundant throughout the Rio Grande and Pecos basins, but now is limited to just a few locations of the Rio Grande in New Mexico. Within North America, the Rio Grande silvery minnow inhabits the Rio Grande River. The Rio Grande silvery minnow currently occupies less than 10% of its historic range and is now only found in the Rio Grande River from Cochiti Pueblo, downstream to the in-stream flow of Elephant Butte Reservoir. Apparently, this species is now extinct in Texas.

The maximum size for the Rio Grande silvery minnow is 8.9 cm (3.5 in). They travel in schools. The abundance of the Rio Grande silvery minnow varies from season to season and from year to year. If stream or river flows do not significantly increase during the spring, this species is less likely to spawn that year. Silvery minnows tend to skim the bottom of rivers and streams. These fish are herbivores, whose diet consists of river plants and benthic macro-invertebrates.

Silvery minnows prefer large streams with slow to moderate current flowing over a mud, gravel substrate, or shifting sand-silt substrate bottom. Silvery minnows typically occupy stream habitats where water depths are moderate 0.2 to 0.8 m (8 in. to 31.5 in.) and have velocity from 0 to 30 cm (0 to I ft./sec). During the winter, these minnows are most commonly found in nearly still water with debris cover. However, during low flows, they are found in isolated pools and in watered reaches immediately down stream of diversion structures. They have also been found in irrigation ditches and canals.

New Mexico meadow jumping mouse (E) (Zapus hudsonius luteus): New Mexico meadow jumping mouse is a water-loving animal that lives only along the banks of southwestern streams. It is semi-aquatic, and its large back feet may assist it with swimming as well as jumping. Unlike other subspecies of meadow jumping mouse, it is never found in meadows or grasslands without suitable perennial water and riparian habitat. It is rarely found more than a few feet (1.8 m) from running water.

These mice are naturally rare and scattered across isolated population centers, and no wonder; riparian areas make up less than 1 percent of the landmass in the Southwest.
But these precious arteries of life are in decline, and the jumping mouse along with them. The mouse has been extirpated from 70 to 80 percent of its historic range, which extended from the San Juan Mountains in southwestern Colorado into the Rio Grande Valley in New Mexico and the White Mountains in Arizona. These days, they are found only in 5 isolated mountain ranges in Colorado, New Mexico, and Arizona, and in the Rio Grande Valley.

In all historical locations surveyed since 2000, populations have undergone large declines and, in some cases, may have completely disappeared. Overgrazing by livestock is the primary driver of this decline; cattle grazing, even with low numbers of cows, destroys sensitive streamside habitat through loss of vegetation, alteration of the vegetative community by selective grazing of certain species, soil compaction, and general destruction from trampling. A mouse in grazed habitat generally cannot collect enough food during its short active period to make it through the winter. During surveys in 2005 and 2006, every population of New Mexico meadow jumping mice was found in areas inaccessible to livestock.

Mexican Spotted owl (T) (Strix occidentalis lucida): Mexican spotted owl nests, forages, roosts and disperses in a wide variety of biotic communities:

• Mixed-conifer forests are commonly used throughout the range and may include Douglas fir, white fir, southwestern white pine, limber pine, and ponderosa pine. Understory may include Gambel oak, maples, box elder, and/or New Mexico locust. Highest densities of Mexican spotted owls occur in mixed-conifer forests that have experienced minimal human disturbance.

• Madrean pine-oak forests are commonly used throughout the range, and, in the southwestern U.S., are typically dominated by an overstory of Chihuahua and Apache pines, with species such as Douglas fir, ponderosa pine, and Arizona cypress. Evergreen oaks are typically prominent in the understory.

• Rocky canyons are utilized by Mexican spotted owls in the northern part of their range, including far northern Arizona and New Mexico, and southern Utah and Colorado.

Nesting habitat is typically in areas with complex forest structure or rocky canyons, and contains mature or old growth stands which are uneven-aged, multistoried, and have high canopy closure. In the northern portion of the range (southern Utah and Colorado), most nests are in caves or on cliff ledges in steep-walled canyons. Elsewhere, most nests are in Douglas-fir trees (Pseudotsuga menziesii).

The patterns of habitat use by foraging owls are not well known, but Mexican spotted owls generally forage in a broader array of habitats than they use for roosting, and most commonly in Douglas fir. Ganey and Balda (1994) found that, in northern Arizona, owls generally foraged slightly more than expected in unlogged forests, and less so in selectively logged forests. However, patterns of habitat use varied between study areas and between individual birds, generalizing difficult.

Pecos sunflower (T) (Helianthus paradoxus): Pecos sunflower is an annual, herbaceous plant. It grows 1–3 meters (m) (3.3 - 9.9 feet (ft)) tall and is branched at the top. It inhabits desert wetlands and grows in permanently saturated soils, such as desert wetlands (or cienegas) associated with springs, as well as the margins of streams and lakes. It is threatened by various factors, particularly: the destruction or degradation of wetlands by filling; draining through diversion to provide water for livestock or irrigation; the construction of impoundments; the drying of its habitat through the depletion of local groundwater; excessive livestock grazing or mowing; the effects of local highway maintenance; and competition from non-native plant species (particularly saltcedar, Tamarix spp.).

Yellow-Billed Cuckoo (T) (Coccyzus americanus): Yellow-billed Cuckoo uses wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the Midwest, look for cuckoos in shrub-lands of mixed willow and dogwood, and in dense stands of small trees such as American elm. In the central and eastern U.S., Yellow-billed Cuckoos' nests in oaks, beech, hawthorn, and ash. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, EPA has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. On July 31, 2002, EPA provided a Biological Evaluation (BE) to the Fish and Wildlife Service (FWS) for a consultation (Cons. # 2-22-02-I-572) pursuant to Section 7 of the Endangered Species Act. EPA asked FWS to concur with the "no effect" determination for flycatcher. In a letter of September 16, 2002, EPA requested that an informal consultation for proposed silvery minnow critical habitat to be added to the

consultation. EPA determined that the reissuance of the permit "may affect but is not likely to adversely affect" proposed silvery minnow critical habitat.

In the letter dated October 11, 2002, the FWS concurred with EPA that the permit reissuance was "not likely to adversely affect" the silvery minnow critical habitat; and "no effect" for the flycatcher. EPA reviewed the compliance status and found the facility has had no failure of the Whole Effluent Toxicity (WET) test. EPA determines that the 2002 consultation baseline has not been changed and this action has "no effect" on the listed species. EPA also concludes that reissuance of this permit will have "no effect" on other listed species and designated critical habitat.

2. There have been no changes in operation and treatment of discharge at the hatchery since prior issuance of the permit.

3. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations. Also, the draft permit is consistent with the State's WQS and does not increase pollutant loadings.

4. The NPDES program regulates the discharge of pollutants from the treatment facility and does not regulate forest and agricultural management practices.

5. Based on items 1thru 3 above, EPA concludes that reissuance of this permit will have "no effect" on the listed species and designated critical habitat.

J. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

K. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised or remanded by the New Mexico Water Quality Control Commission. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the Water Quality Standards are either revised or promulgated by the New Mexico Environment Department. Should the State adopt a State water quality standard, and/or develop or amend a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with [40 CFR 122.44(d)]. Modification of the permit is subject to the provisions of [40 CFR 124.5].

L. VARIANCE REQUESTS : No variance requests have been received.

M. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

N. ADMINISTRATIVE RECORDS

The following information was used to develop the draft permit:

I. APPLICATION(s)

EPA Application Form 2A and 2S received October 17, 2019.

II. 40 CFR CITATIONS

Citations to 40 CFR are as of January 17, 2020
Sections 122, 124, 125, 133, 136

III. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as effective August 11, 2017

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, March 15, 2012

Statewide Water Quality Management Plan, May 10, 2011

State of New Mexico CWA §303(d)/§305(b) Integrated List & Report, 2018-2020

EPA Approved TMDL for the Middle Rio Grande Watershed, November 1, 2018

IV. MISCELLANEOUS REFERENCES

Email from Helen Nguyen, EPA, R6 on January 23, 2020 providing DMR data for the city of Belen.

Email from Sarah Holcomb, NMED on February 13, 2020 providing the 4Q3 (calculated at USGS gage 08331510) and ambient data at 32RGrand421.4 station (above the WWTP).

Email from Sarah Holcomb, NMED on February 20, 2020 stating that she has looked at the streamflow from USGS, and it’s possible that data points were influenced by storms (July 16 - 3850 mg/L TSS and August 12 - 1870 mg/L TSS).

Email from Barbara Cooney, NMED on March 11, 2020 providing comments on the draft permit.