NPDES PERMIT NO. NM0020672
FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

City of Gallup WWTP
P.O. Box 1270
Gallup, NM 87305

ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

PREPARED BY

Tung Nguyen, Environmental Engineer
Permitting and Water Quality Branch (6WD-PE)
Water Division
VOICE: 214-665-7153
EMAIL: nguyen.tung@epa.gov

DATE PREPARED

April 1, 2025

PERMIT ACTION

Proposed reissuance of the current National Pollutant Discharge Elimination System (NPDES) permit issued September 27, 2017, with an effective date of November 1, 2017, and an expiration date of October 31, 2022.

RECEIVING WATER – BASIN

Puerco River – Lower Colorado River Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

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
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
NNWQS	Navajo Nation Water Quality Standards
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
PFAS	per- and poly- fluoroalkyl substances
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

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit issued on September 27, 2017, with an effective date of November 1, 2017, and an expiration date of October 31, 2022, are as follows:

- An interim and final ammonia limit has been established with a schedule of compliance.
- An interim and final flouride limit has been established with a schedule of compliance.
- Semi-annual PFAS monitoring has been established.
- Pollutant monitoring requirements have been added (See Tables 4 & 5 for details).
- The critical dilution has been changed to 88% from the previous 100%.
- A new WET limit for Ceriodaphnia dubia has been established.
- The daily maximum E. coli limit has been revised to 235 CFU/100 ml to be protective of Navajo Nation WQS.
- BOD_5 limits have been established to ensure that the Navajo Nation dissolved oxygen WQS is protected. The BOD_5 limits are 27 mg/L for the monthly average and 33 mg/l for the 7-day average.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the wastewater treatment plant is located at 800 Sweetwater Place, City of Gallup, McKinley County, New Mexico. Under the Standard Industrial Classification Code 4952, the facility is a POTW with a design flow of 3.5 MGD serving a population of 25,593.

There are five lift stations that direct flow to the Gallup WWTP from the city. The influent flow enters through a 27-inch diameter interceptor that is metered through a 12-inch Parshall flume. The flow then enters the headwork's wet well where it is lifted approximately 23 feet by three screw pumps. The influent then flows by gravity through two band screens. Flow then enters a grit detritor and grit trap. Influent screenings and grit are emptied into waiting receptacles and taken to the landfill.

Flow from the head works is then directed to three primary clarifiers. A fourth primary clarifier is available for increased flows. Sludge and scum are removed and sent to the digesters. Flow is then recombined and sent to aeration basin #1.

Aeration basin #1 consists of four aeration zones which provide oxygen via fine bubble diffusers. Flow is then sent to aeration basin #2 which is an oxidation ditch equipped with four brush aerators. Flow is split at the end of the oxidation ditch and sent to three secondary clarifiers. All three clarifiers then introduce the return activated sludge (RAS) to the front of aeration basin #1 where it combines with the flow from the primary clarifiers. Waste activated sludge (WAS) and scum are removed and sent to the digesters.

Effluent from the secondary clarifiers, if necessary, can be split into lines that feed two disk filters. The filter effluent channel, filtered or bypassed, feeds the process water system providing the facility with its non-potable water supply. Effluent is then sent to the chlorine contact basin where it is disinfected with gas chlorine. De-chlorination is accomplished with sulfur dioxide. Effluent then flows to the outfall where it is metered through an 18" Parshall flume, or to the reuse wet well for pumping to the reuse system (golf course).

Waste activated sludge and primary sludge are pumped to the digestion process which includes a primary digester, mechanical (rotary) sludge thickener, secondary digester and a gravity thickener. Digested sludge can then be processed through the use of a two-meter belt filter press or liquid hauled to the City owned sludge disposal site. The sludge may also be sent to four drying beds for added flexibility. The plant also has a sludge drying system capable of producing Class A bio-solids.

The discharge from the POTW is to the Puerco River subject to 20.6.4.99 NMAC. The Puerco River is a perennial stream that flows into Arizona and the Lower Colorado River Basin. The discharge is located at Latitude 35° 31' 03" North, Longitude 108° 49' 02" West.

III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A and addendum received December 5, 2022 and February 6, 2023, are presented in Table 1 and Table 2.

Table 1

Parameter	**Max** (mg/L)	**Avg** (mg/L)
Flow, million gallons/day (MGD)	4.19	1.93
pH, minimum, standard units (su)	6.62	N/A
pH, maximum, standard units (su)	8.28	N/A
Temperature, winter, (°C)	13	N/A
Temperature, summer, (°C)	28	20
Biochemical Oxygen Demand, 5-day (BOD_5)	163	12.36
Fecal Coliform (bacteria/100 ml)	227	28
Total Suspended Solids	68	12.61
Chlorine, Total Residual (ug/L)	900	100
Dissolved Oxygen (mg/L)	7.86	5.63
Total Kjeldahl Nitrogen (mg/L)	21	13.9
Nitrate plus Nitrite Nitrogen (mg/L)	22.2	7.19
Phosphorus, Total (mg/L)	1.7	1.03
Total Dissolved Solids (mg/L)	1280	1158

The facility must sample and report all of the pollutants identified in Table 4 of the Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico (NMIP). These pollutants were reported in Table D of Form 2A. From that list, the pollutants in Table 2 had detectable results.

Table 2

Parameter	Max	Avg
Cadmium	2 ug/l	2 ug/l
Arsenic, Total	1.9 ug/l	1.6 ug/l
Copper, Total	7.6 ug/l	2.29 ug/l
Lead	0.65 ug/l	0.61 ug/l
Zinc, Total	27 ug/l	22 ug/l
Hardness (as $CaCO_3$)	140 mg/l	136.7 mg/l

Parameter	Max	Avg
Bis(2-Ethylhexyl) Phthalate	8.4 ug/l	0.2 ug/l
Nickel	2.1 ug/l	2.1 ug/l
Uranium	0.76 ug/l	0.65 ug/l
Chloroform	65.0 ug/l	4.8 ug/l
Methylmercury	.099 ng/l	.099 ng/l
Fluoride	2000 ug/l	1750 ug/l
Barium	28 ug/l	22 ug/l
Boron	600 ug/l	557 ug/l
Aluminum, total recoverable	93 ug/l	93 ug/l
Aluminum, dissolved	40 ug/l	32 ug/l
Manganese	94 ug/l	74 ug/l

A summary of the last 36 months of available pollutant data (i.e., January 2020 through December 2022) taken from DMRs indicates that there have been several exceedances according to the submitted DMRs:

Table 3

Date	Parameter	Exceedance Type				
		Exceedance (Instantaneous Max)	Exceedance (30-day average)	Exceedance (7-day average)	Exceedance (Daily Max)	Exceedance (% Removal)
4/30/21	BOD_5		56.8 mg/L	163 mg/L		
4/30/21	BOD_5					70.9 %
8/31/21	TSS			47 mg/L		
10/31/21	TSS			68 mg/L		
3/31/22	TSS		30.3 mg/L	100 mg/L		
4/30/22	TSS			65 mg/L		
4/30/21	TSS					84.7 %
11/30/20	Chloroform		8.4 µg/L		42 µg/L	
12/31/20	Chloroform		15.2 µg/L		45 µg/L	
7/31/21	Chloroform		10.4 µg/L		65 µg/L	
8/31/22	Chloroform				17 µg/L	
10/31/22	Chloroform		5.8 µg/L		29 µg/L	
11/30/22	Chloroform		12.6 µg/L		29 µg/L	
12/31/22	Chloroform		7.7 µg/L		27 µg/L	
1/31/22	Chloroform		16.7 µg/L		36 µg/L	
3/31/22	Chloroform				6.4 µg/L	
9/30/22	Chloroform				13 µg/L	
10/31/22	Chloroform		7.9 µg/L		28 µg/L	
11/30/22	Chloroform		13.6 µg/L		32 µg/L	
12/31/22	Chloroform		8.2 µg/L		23 µg/L	
11/30/20	Chlorodibromomethane		.6 µg/L		2.7 µg/L	
12/31/22	Chlorodibromomethane		1.1 µg/L		2.4 µg/L	

7/31/21	Chlorodibromomethane				2 µg/L	
8/31/22	Chlorodibromomethane				1 µg/L	
10/31/21	Chlorodibromomethane				2.1 µg/L	
11/30/21	Chlorodibromomethane		2.6 µg/L		18 µg/L	
12/31/21	Chlorodibromomethane				1.4 µg/L	
1/31/22	Chlorodibromomethane		1.3 µg/L		4.3 µg/L	
9/30/22	Chlorodibromomethane				1.9 µg/L	
11/30/22	Chlorodibromomethane		1.5 µg/L		5.5 µg/L	
12/31/22	Chlorodibromomethane				2.8 µg/L	
2/29/20	Di[2-ethylhexyl] phthalate				1.7 µg/L	
11/30/20	Di[2-ethylhexyl] phthalate		3 µg/L		41.7 µg/L	
4/30/21	Di[2-ethylhexyl] phthalate				1.9 µg/L	
5/31/21	Di[2-ethylhexyl] phthalate				2.1 µg/L	
10/31/21	Di[2-ethylhexyl] phthalate				8.4 µg/L	
11/30/21	Di[2-ethylhexyl] phthalate				7 µg/L	
1/31/22	Di[2-ethylhexyl] phthalate				1.5 µg/L	
4/30/22	Di[2-ethylhexyl] phthalate				1.5 µg/L	
5/31/22	Di[2-ethylhexyl] phthalate				6.6 µg/L	
8/31/22	Di[2-ethylhexyl] phthalate				1.3 µg/L	
9/30/22	Di[2-ethylhexyl] phthalate				1.6 µg/L	
11/30/22	Di[2-ethylhexyl] phthalate				4.3 µg/L	
2/28/21	Total Residual Chlorine	1200 µg/L				
7/31/22	Total Residual Chlorine	30 µg/L				

8/31/22	Total Residual Chlorine	30 µg/L				
4/30/22	E. coli		1011 MPN/100 ml		1011 MPN/100ml	
5/31/22	E. coli				851 MPN/100ml	
6/30/22	E. coli		1011 MPN/100 ml		1011 MPN/100ml	
9/30/22	E. coli				10112 MPN/100ml	
2/29/20	Total Dissolved Solids		427 mg/L			
11/30/21	Total Dissolved Solids		436.1 mg/L			
1/31/22	Total Dissolved Solids		411.9 mg/L			

In addition to the above listed exceedances in Table 3, the facility has had multiple Whole Effluent Toxicity test failures throughout the past 36 months.

IV. 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 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 issued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit expired on October 31, 2022. An incomplete application to renew their permit was submitted on April 29, 2022. The facility submitted additional information on May 2, 2022, May 13, 2022, May 20, 2022, October 11 & 31, 2022. It was determined that a complete application had been submitted on December 22, 2022.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

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

Regulations contained in 40 CFR §122.44 require that 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 proposed draft permit for TSS, BOD5 and percent removal of both. Water quality-based effluent limitations are established in the proposed draft permit for copper, Chlorodibromomethane, Chloroform, Bis (2-Ethylhexyl) Phthalate, E. coli bacteria, pH, ammonia, flouride, TDS and TRC.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. General Comments

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 BOD, TSS, *E. coli* bacteria, 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.

2. Effluent Limitation Guidelines

The facility is a POTW/POTW-like that has technology-based limits established at 40 CFR Part 133.102, Secondary Treatment Regulation. Pollutants established in this Chapter are BOD_5, TSS and pH. BOD_5 limits of 30 mg/l for the 30-day average and 45 mg/l for the 7-day average and 85% percent (minimum) removal are found at 40 CFR §133.102(a). TSS limits, 30 mg/l for the 30-day average and 45 mg/l for the 7-day average, and 85% percent (minimum) removal, are, also, found at 40 CFR §133.102(b). The limit for pH is 6-9 s.u. and based on 40 CFR §133.102(c). Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day. 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 * 8.345 lbs/gal * design flow in MGD

30-day average TSS loading = 30 mg/l * 8.345 lbs/gal * 3.5 MGD
30-day average TSS loading = 876 lbs

7-day average TSS loading = 45 mg/l * 8.345 lbs/gal * 3.5 MGD
7-day average TSS loading = 1,314 lbs

30-day average BOD_5 loading = 30 mg/l * 8.345 lbs/gal * 3.5 MGD
30-day average BOD_5 loading = 876 lbs

7-day average BOD_5 loading = 45 mg/l * 8.345 lbs/gal * 3.5 MGD
7-day average BOD_5 loading = 1,314 lbs

Technology-Based Effluent Limits - 3.5 MGD design flow

Table 3: Discharge Limitations

Parameter	30-Day Avg. (lbs/day)	7-Day Avg. (lbs/day)	30-Day Avg. (mg/L)	7-Day Avg. (mg/L)
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD_5	876	1,314	30	45
BOD_5, % removal *	≥ 85	---	---	---
TSS	876	1,314	30	45
TSS, % removal *	≥ 85	---	---	---

* % removal is calculated using the following equation: [(average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration] * 100.

The facility will be required to maintain a log and kept at the facility showing the influent of BOD and TSS on a once per week frequency to be used to determine the removal percentage. This data is not required to be submitted but must be made available to EPA or its agents upon request.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are required 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/Tribe WQS. Effluent limitations and/or conditions established in the draft permit

are in compliance with applicable State/Tribal WQS and applicable State/Tribe water quality management plans to assure that surface WQS of the receiving waters are protected and maintained or attained.

2. Implementation

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/Tribe narrative and numerical water quality standards are used in conjunction with EPA criterion and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State of New Mexico Water Quality Standards (NMWQS)

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC EPA-approved on June 13, 2024). The facility discharges into the Puerco River Segment 20.6.4.99 NMAC, a perennial stream. The designated uses of the receiving waters are warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

4. Navajo Nation Surface Water Quality Standards (NNWQS)

The discharge into the Puerco River Segment 20.6.4.99 starts from New Mexico state land and travels approximately 22.21 stream miles to the Arizona –New Mexico border. When the discharge reaches the Arizona border (and also crossing between Navajo Nation and State lands in the checkerboard lands near Manuelito, NM), the water (Puerco River) enters or crosses Navajo Nation (NN) land. Based on best professional judgment (BPJ), the authorized discharge from the facility that is compliant with permit limitations and conditions will not have a significant impact on NN waters due to permit limitations protective of both NMWQS and NNWQS.

The general and specific stream standards for the Navajo Nation are provided in Surface Water Quality Standards passed by Navajo Nation Resources Committee (effective March 17, 2021). The 2015 Navajo Nation Surface Water Quality Standards (NNWQS) have designated uses for the Puerco River as adopted pursuant to §104(b) and §201 of the Navajo Nation Clean Water Act. The designated uses for the Puerco River within Navajo Nation land are primary human contact, secondary human contact, agricultural water supply, fish consumption, warm water aquatic & wildlife habitat, and livestock watering. As the draft permit develops limitations and conditions below, appropriate sections of the NNWQS will be identified.

5. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). New Mexico WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Limits of 6.6 to 9.0 standard units (su) for pH in the previous permit will be continued in the draft permit, as required for the warmwater aquatic life designated use in the NMWQS.

b. Bacteria

Regarding NMWQS, site-specific criteria apply: the monthly geometric mean of E. coli bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less (20.6.4.99 NMAC).

The NNWQS monthly geometric mean standard for the primary human contact use is also 126 cfu/100 ml, but the single sample maximum is 235 cfu/100 ml, so the daily maximum will be limited to protect the more stringent Navajo Nation standard. Based on the submitted DMRs, the facility shows the capability to treat the wastewater to a daily maximum of less than 235 MPN/100. Therefore, the facility has shown the capability to meet these standards when properly operated, and no compliance schedule will be needed. The results for E. coli may be reported as either colony forming units (CFU) or the most probable number (MPN) depending on the analytical method used.

c. Dissolved Oxygen (DO)

The WWTP discharges into the Puerco River Segment 20.6.4.99 starting in New Mexico state land and traveling approximately 22.21 stream miles to the Arizona –New Mexico border. Approximately 6.12 stream miles downstream, the water (Puerco River) enters Navajo Nation Trust land. The State of New Mexico WQS criterion applicable to the warm water aquatic life designated use is at least 5 mg/L for dissolved oxygen. The Navajo Nation WQS criterion applicable to the warm water aquatic life designated use for DO is: Single sample minimum 6.0 mg/L (from a depth no greater than one meter), and single sample minimum 1.0 mg/L (from a depth greater than one meter). The NNWQS defines warm water aquatic life to be waters that typically have temperatures exceeding 20 ºC. The geometric mean water temperature for applicable the Puerco River segment is 20.84 ºC, based on ambient river data supplied by NMED.

The Navajo Nation is a downstream state, and the permit limits developed for this permit must ensure that NNWQS are protected (See 40 CFR 122.4(d)). As a part of the permitting process, EPA used the LA-QUAL water quality model, which is a steady-state one-dimensional model which assumes complete mixing within each modeled element, to develop permit parameters for the protection of the Navajo Nation surface water WQS for DO (i.e., 6 mg/L). Primarily based on the City of Gallup Wastewater Treatment Plant's design flow of 3.5 MGD (0.184 m^3/s) and the receiving water critical (4Q3) flow of 0.021 m^3/s (0.469 MGD), various BOD_5 factors including BOD_5 Secondary Treatment Standards were considered and simulated to achieve the DO criterion. A complete characterization of Puerco River (i.e., water quality and hydrodynamic data) was not available. Where data were not available, estimates and assumptions are made. The following is a summary of model inputs:

The City of Gallup Wastewater Treatment Plant's design flow is 0.184 m^3/sec (3.5 MGD). The discharge location provided in the permit application is located at Latitude 35° 31' 03" N (35.5175), and Longitude -108° 49' 02" W (-108.8172). Other effluent parameters provided in the permittee's application and applied in the model include Ammonia (Avg: 11.8 mg/L), DO (Avg: 5.63 mg/L), effluent summer temperature (20 C), effluent Nitrate plus Nitrite Nitrogen (Avg: 22.2 mg/L), and E. Coli (Avg: 28 CFU/100ml).

NMED provided the following information. The critical low flow (4Q3) of the Puerco River is approximately 0.021 m^3/sec (0.469 MGD). Other parameters applied in the model include ambient temperature (22.7 C), DO (Avg: 7.27mg/L), salinity (Avg: 0.98), Nitrate plus Nitrite Nitrogen (Avg: 15.6 mg/L) and E. Coli of 613 CFU/100ml. The receiving stream average depth of 1 foot (0.3 meters) and average width of 33 feet (10 meters) at the critical flow conditions were assumed since no data was available.

EPA used the State of New Mexico's OpenEnviroMap to estimate the average elevation of the study area and average width of the Puerco River. The average elevation at the outfall is approximately 1969 meters (6460 feet). The studied Puerco River segment length is approximately 37.6 kilometers (23.38 miles), which was obtained from the State of New Mexico's 2022-2024 303(d) List.

The model results show an excursion of the receiving stream DO standard of 6 mg/L when the BOD_5 limits of 30 mg/L for 30-day average and 45 mg/L for 7-day average were applied (see graph with 30/45 mg/L BOD_5 in Appendix A of the Fact Sheet (more detailed information is available upon request). Various BOD_5 factors were considered and simulated to achieve the DO criterion; EPA believes the optimal levels of BOD_5 are 27 mg/L for the 30-day average and 33 mg/l for the 7-day average (see attached graph in Appendix A of the Fact Sheet). Mass loadings are calculated with the same method for TSS above. This BOD_5 limitation may be re-evaluated against the WQS in the next permit renewal process.

30-day average BOD_5 loading = 27 mg/l * 8.345 lbs/gal * 3.5 MGD
30-day average BOD_5 loading = 789 lbs

7-day average BOD_5 loading = 33 mg/l * 8.345 lbs/gal * 3.5 MGD
7-day average BOD_5 loading = 964 lbs

Parameter	30-Day Avg. (lbs/day)	7-Day Avg. (lbs/day)	30-Day Avg. (mg/L)	7-Day Avg. (mg/L)
BOD_5	789	964	27	33

The model results are based on assumptions and default values as explained and presented above. Should these conditions change, the model should be updated to provide a more accurate assessment of the water quality within the receiving water body.

Based on the submitted DMRs, the facility shows the capability to treat the wastewater within the newly proposed BOD_5 limits. Therefore, the facility has shown the capability to meet these standards when properly operated, and no compliance schedule will be needed.

d. Total Residual Chlorine (TRC)

The previous permit established a TRC limit of 11 ug/L o protect against chronic toxicity to aquatic organisms. This will be continued in the draft permit. NNWQS are identical with NMWQS and no additional considerations are required for this pollutant.

e. Total Dissolved Solids (TDS)

The Colorado River flows more than 1400 miles from it headwaters in the Rocky Mountains through portions of seven states and Mexico before it discharges into the Gulf of California. Salinity impacts have been a major concern in the United States and Mexico. The salinity of the Colorado River increases as it flows downstream. The Colorado River has carried an average salt load of approximately 9 million tons annually past Hoover Dam, the uppermost location at which numeric criteria have been established. Many of the saline sediments of the Basin were deposited in prehistoric marine environments. Salts contained within the sedimentary rocks are easily eroded, dissolved, and transported into the river system. (Source: *2014 Review, Water Quality Standards for Salinity, Colorado River System - coloradoriversalinity.org)*.

In 1973, the Colorado River Basin States came together and organized the Colorado River Basin Salinity Control Forum (Forum). In 1974, in coordination with the Department of the Interior and the U.S. State Department, the Forum worked with Congress in the passage of the Colorado River Basin Salinity Control Act (Act). Since implementation of the Program, measures have been put in place which now reduce the annual salt load of the Colorado River by more than 1.3 million tons. The salinity concentration at Imperial Dam has been reduced by about 90 mg/L. However, even with these efforts the quantified damages to U.S. users are still approximately $382 million per year. Damages are projected to increase to $614 million per year by 2035 if the Program does not continue to be aggressively implemented (Source: *Colorado River Basin Salinity Control Forum - coloradoriversalinity.org*).

The City of Gallup WWTP discharges to the Puerco River which is part of the Colorado River Basin where a basin-wide Colorado River Salinity Control Program (CRSCP) was established. The objective of the CRSCP, as provided in Sections I.A. and I.B., is to achieve “no salt return” whenever practicable for industrial discharges and an incremental increase in salinity over the supply water for municipal discharges. According to the Forum-adopted NPDES permit program policies (for Municipal Discharges), in order for a permittee to be in compliance with the Forum’s municipal discharges criteria, the incremental increase in salinity shall be 400 mg/l or less, which is considered to be a reasonable incremental increase above the flow weighted average salinity of the intake water supply. Based on the facility 2020-2022 DMR data, the facility exceeded the CRSCP net TDS incremental increase of 400 mg/l three times. Consistent with the CRSCP requirement and the previous permit, the draft permit proposes a 30-day average TDS limit of 400 mg/L net incremental increase. The draft permit will, also, maintain the TDS reporting requirements in the previous permit.

NNWQS have the same CRSCP as these described above; the current permit limit is also protective of NNWQS in term of TDS.

f. Total Ammonia as N (TAN) and Fluoride

Total ammonia (as N) is re-evaluated against the NMWQS (20.6.4.900.L) and NNWQS (Table 207.1) as shown below. Ambient data for temperature and pH, measured at the same location, were 22.7 ºC on average and 8.7 s.u. at 95th percentile during a period of 2011 - 2022. Ambient data (Ca) for the ammonia is considered zero because no quantitative data is available. The criteria for total ammonia are determined as below:

Ammonia, total	**Acute**	**Chronic**
Criterion, mg/L	0.8 (warmwater) NNWQS, fish present. 0.8 NMWQS, fish present	0.21 NNWQS. 0.2 NMWQS
Effluent, mg/L (average)	11.8	11.8
Calculated Instream Concentration, mg/L	RP level = effluent x 2.13 > 0.8	22.16
RP excursion	Yes	Yes
Calculated limits	0.8 mg/L (daily max)	**0.22 mg/L (daily max)** **0.15 mg/L (monthly average)** **Proposed limits due to more stringent than 0.8 mg/L.**

To determine if a pollutant has a reasonable potential to exceed a water quality criterion the following calculation is performed with a steady-state mass balance model in the NMIP. The RP is determined in term of NMWQS as follows:

Instream concentration = ((FQa × Ca) + (Qe × Ce × 2.13)) ÷ (FQa + Qe)
ug/L or mg/L (unit for concentrations must be consistent)

Where:
Ce is the average effluent concentration, ug/L or mg/L
Ca is the geometric mean ambient concentration upstream of discharger, ug/L or mg/L
Qe is the effluent flow rate, 3.5 MGD
Qa is 0.469 MGD (4Q3); (4Q3 = 0 for acute criteria)
F is the fraction of stream allowed for mixing, 1.0

RP exist for both acute and chronic criteria because the calculated instream concentrations are greater than the chronic and acute criteria. Limits are calculated as follows:

Daily Max. Conc. = Cs + (Cs - Ca)(F*Qa/Qe), where Cs is criterion ug/L or mg/L
Monthly Avg. Conc. = Daily Max. Conc. /1.5

Loading limits are established in the approach as follow:
30-day average TAN loading = 0.15 mg/l * 8.345 lbs/gal * 3.5 MGD = 4.38 lbs
Daily max. TAN loading = 0.22 mg/l * 8.345 lbs/gal * 3.5 MGD = 6.42 lbs

EPA establishes new limits for TAN based on chronic condition because the calculated limits are more stringent than the one under acute condition. A 36-month compliance schedule is provided pursuant to 40 CFR 122.47(a) as stated in the permit. Per 40 CFR 122.47(a)(3) an interim limit, effective immediately, is set at the level (11.8 mg/L monthly average) reported in the application.

Fluoride is evaluated in the same RP approach as for TAN. No criterion is applicable regarding NMWQS. In term of NNWQS, the most stringent criterion, 2000 ug/L, is for livestock watering (Table 207.1). The averaged effluent reported in the application was 1750 ug/L. The calculated effluent limits as follows:

Instream concentration	Daily max. limit	Monthly Average limit	Daily max. loading limit	Monthly average loading limit
3286 ug/L	2268 ug/L	1512 ug/L	66 lbs./day	44 lbs./day

Similar to TAN, an interim limit, effective immediately, is set at the level (1750 ug/L monthly average) for fluoride reported in the application. A 36-month compliance schedule is also provided in the permit.

g. Toxics

The Clean Water Act 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.

All applicable facilities are required to fill out appropriate sections of the Form 2A, 2S or 2E, to apply for a NPDES permit or reissuance of a NPDES permit. This facility is designated as a major and supplied the Form 2A expanded pollutant testing list in their December 5, 2022, application. On March 8, 2023, the facility submitted revised data, that removed samples with QC failures. The Navajo Nation is a downstream state, and the permit limits developed for this permit must ensure that its WQS are protected (See 40 CFR 122.4(d)).

All pollutants of concern were evaluated for RP to cause or contribute to WQS exceedances. If RP exists, the screen would also calculate the appropriate permit limit needed to be protective of such designated uses. The RP screening for the NMWQS is based on the NMIP as of March 15, 2012. The application Form 2A provided the hardness; 136.7 mg/1, expressed as $CaCO_3$, for those hardness dependent WQS. The 4Q3 is 0.726 cfs. The receiving water is a perennial waterbody. The CD is 88%. The results of New Mexico and Navajo Nation RP screening are available upon request.

EPA retains previous established limits/monitoring condition for copper, mercury due to insufficient data/information in term of the SSM requirement. Limits for chlorodibromomethane, chloroform and bis-(2-ethylhexyl) phthalate are also carried forward because there were limit exceedances reported in the DMRs.

The permittee has not met the sufficiently sensitive test requirement per 40 CFR 122.21(e)(3) for the pollutants listed below in Table 4. Because the permittee has not demonstrated compliance with the SSM requirement per 40 CFR 122.21(e)(3) for all the parameters in Table 4 below, EPA proposes monitoring for these parameters at once/six months in this permit draft. All the analytical tests must meet the SSM requirement. Optionally during the public comment period,

the permittee may submit additional test data (one scan for each pollutant) meeting the SSM requirement for these monitored parameters; EPA would reconsider this monitoring requirement depending on the analyses results. Pollutants shown in Part I.F of the draft permit, applicable to the State WQS that are not listed in Table C of Form 2A, will be tested, if the permit will be reapplied, during the permit term pursuant to 40 CFR 122.21(j)(4)(iv).

Table 4.

Pollutant	CAS Number	Applicable WQS, ug/L	Most Stringent WQS	Suggested Method
Butyl Benzyl Phthalate	85687	0.1	Navajo Nation	EPA 606
2,4-Dinitrotoluene	121142	1.7	Navajo Nation	EPA 609
Hexachlorocyclopentadiene	77474	0.3	Navajo Nation	EPA 612
Hexachloroethane	67721	0.1	Navajo Nation	EPA 612
Hexachlorobutadiene	87683	0.01	Navajo Nation	EPA 612
n-Nitrosodi-n-Propylamine	621647	0.51	Navajo Nation	EPA 607
1,2,4-Trichlorobenzene	120821	0.076	Navajo Nation	EPA 612
2,4,6-Trichlorophenol	88062	2.4	Navajo Nation	EPA 604
2,6-Dinitrotoluene	606202	2	Navajo Nation	EPA 609
Bis(2-Ethylhexyl) phthalate	117817	0.37	Navajo Nation	EPA 606
Carbon Tetrachloride	56235	1.6	Navajo Nation	EPA 601
n-Nitrosodiphenylamine	86306	6	Navajo Nation	EPA 607
Vinyl Chloride	75014	1.6	Navajo Nation	EPA 601
Cadmium	7440439	0.31	Navajo Nation	EPA 200.8 or 200.9
Acrylonitrile	107131	0.25	Navajo Nation	EPA 603
Acrolein	107028	2	Navajo Nation	EPA 603
4,6-Dinitro-o-Cresol (aka 2-Methyl-4,6-dinitrophenol)	534521	14	New Mexico	EPA 604
Pentachlorophenol	608935	0.0	Navajo Nation	EPA 604
Benzidine	92875	0.00020	Navajo Nation	EPA 605
Benzo(a)anthracene	56553	0.0013	Navajo Nation	EPA 610
Benzo(a)pyrene	50328	0.00013	Navajo Nation	EPA 610
3,4-Benzofluoranthene/Benzo(b)fluoranthene	205992	0.0013	Navajo Nation/ New Mexico	EPA 610
Benzo(k)fluoranthene	207089	0.018	Navajo Nation	EPA 610
Chrysene	218019	0.018	Navajo Nation	EPA 610
Dibenzo(a,h)anthracene	53703	0.00013	Navajo Nation	EPA 610
Hexachlorobenzene	118741	0.000079	Navajo Nation	EPA 612
Indeno(1,2,3-cd)pyrene	193395	0.0013	Navajo Nation	EPA 610
Diazinon	333415	0.17	New Mexico	EPA 507
Heptachlor	76448	0.0000059	Navajo Nation	EPA 508
Mercury	7439976	0.012	Navajo Nation	EPA 1631E

i. Additional 2022 New Mexico Water Quality Standards and Untested Navajo Nation Parameters

When the City of Gallup submitted their NPDES permit application in December 2022, the 2022 NMWQS were not approved by the USEPA, and they did not test for the new pollutants identified in the 2022 NMWQS. On January 19, 2023, the USEPA approved portions of the 2022 NMWQS including new human health criteria in the table below. To ensure the facility is not exceeding these new WQS, EPA proposes monitoring for these parameters at once per six months in this permit draft to be consistent with NMAC 20.6.4.99 and 40 CFR 122.21(j)(4)(iv). Additionally, some parameters with applicable Navajo Nation WQS were not analyzed in the permit application. To ensure the facility is not exceeding NNWQS, EPA proposes monitoring for these parameters at once per six months in this permit. Optionally during the public comment period, the permittee may submit additional test data (one scan for each pollutant) meeting the SSM requirement for these monitored parameters; EPA would reconsider this monitoring requirement depending on the analyses results. Analytical requirements include the new NMWQS human health criteria that were not tested for in the application and the untested NNWQS criteria listed below:

Table 5.

Pollutant (Newly approved or not yet tested for)	CAS Number	Applicable WQS, ug/L	Most Stringent WQS	Suggested Method *	Applicable WQS
1,2,4,5-Tetrachlorobenzene	95943	.03	Navajo Nation/ New Mexico	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	93721	400	Navajo Nation/ New Mexico	EPA 615	New NM pollutant & NN pollutant
2,4,5-Trichlorophenol	95954	600	Navajo Nation/ New Mexico	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
2,4-Dichlorophenoxyacetic acid	94757	9330	Navajo Nation	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
3-Methyl-4-chlorophenol	59507	4.7	Navajo Nation	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
Alachlor	15972608	170	Navajo Nation	No approved method in 40 CFR 136	NN pollutant
Aluminum	7429905	87	Navajo Nation	The A&W aluminum standard is for	NN pollutant

				acid-soluble aluminum. Acid soluble aluminum is defined as the aluminum that passes through a 0.45 μm membrane filter after the sample has been acidified to a pH between 1.5 and 2.0 with nitric acid.	
Atrazine	1912249	32667	Navajo Nation	Multiple 40 CFR 136 approved methods	NN pollutant
Beta Particles and photon emitters		4 millirems/ year	Navajo Nation	No approved method in 40 CFR 136.	NN pollutant
Di(2-ethylhexyl) adipate (aka Bis(2-ethylhexyl) adipate)	103231	330	Navajo Nation	No approved method in 40 CFR 136	NN pollutant
Bis(Chloromethyl) ether	542881	.017	Navajo Nation	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
Dinoseb	88857	933	Navajo Nation	No approved method in 40 CFR 136	NN pollutant
Dinitrophenols	25550587	1000	Navajo Nation/ New Mexico	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
Diquat	85007	2053	Navajo Nation	No approved method in 40 CFR 136	NN pollutant
Endothall	145733	18667	Navajo Nation	No approved method in 40 CFR 136	NN pollutant
Glyphosate	1071836	93333	Navajo Nation	No approved method in 40 CFR 136	NN pollutant
Guthion (aka Azinphos methyl)	86500	0.01	Navajo Nation	Multiple 40 CFR 136	NN pollutant

				approved methods	
Hexachlorocyclohexane (HCH)-Technical	608731	0.01	Navajo Nation	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
Pentachlorobenzene	608935	0.1	Navajo Nation/ New Mexico	No approved method in 40 CFR 136	New NM pollutant & NN pollutant
Nitrosamines	Various	12.4	New Mexico		New NM pollutant
Nitrosodibutylamine	924163	2.2	New Mexico	No approved method in 40 CFR 136	New NM pollutant
Nitrosodiethylamine	55185	12.4	New Mexico	No approved method in 40 CFR 136	New NM pollutant
N-Nitrosopyrrolidine	930552	340	New Mexico	No approved method in 40 CFR 136	New NM pollutant

ii. Per- and Polyfluoroalkyl Substances (PFAS) Monitoring

As explained at https://www.epa.gov/pfas, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects.[1] EPA is collecting information to evaluate the potential impacts that discharges of PFAS from wastewater treatment plants may have on downstream drinking water, recreational and aquatic life uses. Although not including numeric criteria for PFAS, the 2024 (current) NMQWS narrative criterion for toxic substances at 20.6.4.13(F)(1) NMAC states:

> *"Except as provided in 20.6.4.16 NMAC, surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, duration, concentrations, or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms."*

[1] EPA, *EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan,* EPA 823R18004, February 2019. Available at: https://www.epa.gov/sites/production/files/201902/documents/pfas_action_plan_021319_508compliant_1.pdf

The NMQWS includes a narrative criteria for monitoring of emerging contaminants at 20.6.4.14(F) NMAC that states: "Emerging Contaminants Monitoring: The department may require monitoring, analysis and reporting of emerging contaminants as a condition of a federal permit under Section 401 of the federal Clean Water Act." Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the draft permit requires that the facilities conduct influent, effluent, and sludge sampling for PFAS according to the frequency outlined in the permit. The purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility-specific basis. EPA is authorized to require this monitoring and reporting by CWA § 308(a), which states:

> *"SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act— the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require;".*

EPA notes that there is currently not an analytical method approved in 40 CFR Part 136 for PFAS. As stated in 40 CFR § 122.44(i)(1)(iv)(B), in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. Therefore, the draft permit specifies that until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633. The Adsorbable Organic Fluorine CWA wastewater method 1621 can be used in conjunction with Method 1633, if appropriate. This is consistent with the December 5, 2022 USEPA Memorandum, *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs*, from Radhika Fox.[2]

In October 2021, EPA published a PFAS Strategic Roadmap[3] that described EPA's commitments to action. This roadmap includes a commitment to issue new guidance recommending PFAS monitoring in both state-issued and federally-issued NPDES permits using

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[2] The memo is available at https://www.epa.gov/newsreleases/epa-issues-guidance-states-reduce-harmful-pfas-pollution.

[3] EPA's October 2021 PFAS Strategic Roadmap can be found at: https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024.

EPA's recently published analytical method 1633. In anticipation of this guidance, EPA has included PFAS monitoring in the draft permit using analytical Method 1633. In January 2024, the EPA released final EPA Method 1633, a method to test for 40 PFAS in wastewater, surface water, groundwater, soil, biosolids, sediment, landfill leachate, and fish tissue and final EPA Method 1621, which can broadly screen for the presence of chemical substances that contain carbon-fluorine bonds, including PFAS, in wastewater. More information on Method 1633 and status for approval under Part 136, is available at https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas.

There are currently no applicable Federal and/or State/Tribe surface water quality standards for PFAS. EPA proposes to monitor the PFAS pollutants in the influent, effluent and sewage sludge at semi-annual based on the plant design flowrate in order to gather information on the presence or absence of PFAS in the discharge.

D. 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). Sample type and frequency established in the draft permit is based on the recommended type and monitoring frequencies for POTWs with a design capacity of 3.5 MGD, as defined in Table 9 of the March 12, 2012, NMIP. Report requirements of once per month for TDS is also consistent with the previous permit and the CRSCP guidelines.

Parameter	Frequency	Sample Type
Flow	Daily	Totalized Meter
pH	Daily	Instantaneous Grab
BOD_5	1/Week	6-hr Composite
TSS	1/Week	6-hr Composite
TDS	1/Month	6-hr Composite
% Removal	1/Month	Calculation
TRC	Daily	Instantaneous Grab
E. coli Bacteria	1/Week	Grab
Ammonia	3/Week	Grab
Flouride	3/Week	Grab
Chlorodibromomethane	3/Week	Grab
Chloroform	3/Week	Grab
Bis (2-Ethylhexyl) Phthalate	3/Week	Grab
Copper	1/Month	Grab
Mercury	1/Month	Grab

E. WHOLE EFFLUENT TOXICITY

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 (page 42) of the NMIP outlines the type of WET testing for different types of discharges. The receiving water, a perennial stream, has a 4Q3 of 0.726 cfs (0.39 MGD). With a

facility design flow rate of 3.5 MGD and mixing fraction of 100%, a CD is calculated at 88%. It was previously calculated at 100% with a 4Q3 of 0cfs. The facility is required to conduct chronic WET testing using Ceriodaphnia dubia (Cd) and Pimephales promelas (Pp) with a limit on both species. Results from the last five years of data indicated 33 chronic violations for *C.dubia* and 38 violations for *P.promelas*. A Toxicity Reduction Evaluation (TRE) was initiated during the previous permit cycle and will continue to be a requirement in this permit cycle to ensure toxicity is addressed.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations must be 28%, 37%, 50%, 66% and 88%The low-flow effluent concentration (critical low-flow dilution) is defined as 88% effluent. The permittee shall monitor discharge(s) as specified below:

WHOLE EFFLUENT TOXICITY LIMITS (7-Day Chronic Static Renewal/ NOEC) *	VALUE	MEASUREMENT FREQUENCY	DMR REPORTING FREQUENCY	SAMPLE TYPE
Ceriodaphnia dubia	88%	Once/Quarter	Monthly	24-Hr Composite
Pimephales promelas	88%	Once/Quarter	Monthly	24-Hr Composite

*Compliance with the Whole Effluent Toxicity limitation is required on the effective date of the permit. See Part II of the permit for WET testing requirements and limitation conditions. Grab samples are allowed per method, if needed.

VI. FACILITY OPERATIONAL PRACTICES

A. SEWAGE SLUDGE

The permittee shall use only those sewage sludge disposal or reuse practices that comply with the federal regulations established in 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. The permittee shall submit an Annual Sludge Status report in accordance with NPDES Permit NM0020672, Parts I and Parts IV.

B. 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.

C. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The applicant identified no non-categorical Significant Industrial User’s (SIU) and no Categorical Industrial User's (CIU) in the permit application. 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. The facility is required to report

to EPA, in terms of character and volume of pollutants any significant indirect dischargers into the POTW subject to pretreatment standards under §307(b) of the CWA and 40 CFR Part 403.

D. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results monthly. Reporting requirements and the requirement of using EPA-approved test procedures (methods) for the analysis and quantification of pollutants or pollutant parameters are contained in 40 CFR 122.41(l) and 40 CFR 122.21 (e), respectively. As required by 40 CFR 127.16, all Discharge Monitoring Reports (DMRs) shall be electronically reported. The monitoring results will be available to the public.

VII. 303(d) LIST/TMDL REQUIREMENTS

The facility discharges into the Puerco River Segment 20.6.4.99 perennial stream (non-tribal AZ border to Gallup WWTP). The EPA approved 2024-2026 State of New Mexico CWA §303(d) / §305(b) Integrated Report identifies the Segment is impaired due to E. coli bacteria and ammonia, but there are not an established TMDLs. The above proposed limits for E. coli bacteria and ammonia are in place to minimize further degradation of the water quality. The data will assist NMED in development of the TMDLs. The permit has a standard reopener clause that will allow the permit to be changed if at a later date additional requirements on new or revised TMDLs are completed.

VII. 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 proposed 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 limits are protective of the assimilative capacity of the receiving water, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2. In a letter dated March 6, 2025, NMED concludes that there are no new or increased water quality impacts resulting from the discharge since there are no changes from the previous permit; therefore, no antidegradation review is required.

VII. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet anti-backsliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation.

IX. ENDANGERED SPECIES CONSIDERATIONS

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this project for its effect on listed threatened and endangered species and designated critical habitat. EPA ran an IPaC report for the discharge from the outfall approximately three miles downstream (obtained from http://ecos.fws.gov/ipac) on March 8, 2023 that checked for federally endangered (E)/threatened (T) species listed under the Endangered Species Act. The official species list that was received from the USFWS found that there were no critical habitats within the discharge area. The official species list identified species that may be present in the project area and many of those were the same federally endangered/threatened species that were identified in the previous permit analysis conducted in 2017. The IPaC report identified six federally endangered (E)/threatened (T) species listed under the Endangered Species Act that are within the project area. One of the species is aquatic and includes the Zuni bluehead sucker (*Catostomus discobolus yarrow)*, E. Three of the species are avian and include the Yellow-billed Cuckoo (*Coccyzus americanus)*, T, the Mexican spotted owl (*Strix occidentalis lucida)*, T, and the Southwestern willow flycatcher *(Empidonax traillii extimus)*, E. One flowering plant species is the Zuni fleabane *(Erigeron rhizomatus)*, T. The Mexican Wolf (*Canis lupus baileyi*), E, was also identified in the official species list.

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:

The Zuni bluehead sucker currently occupies 9 river miles (15 kilometers) in 3 headwater streams of the Rio Nutria in New Mexico, and potentially occurs in 27 miles in (43 kilometers) the Kinlichee drainage of Arizona. Zuni bluehead sucker range reduction and fragmentation is caused by discontinuous surface water flow, introduced species, and habitat degradation from fine sediment deposition. Zuni bluehead suckers persist in very small creeks that are subject to very low flows and drying during periods of drought. Because of climate change (warmer air temperatures), stream flow is predicted to decrease in the Southwest, even if precipitation were to increase moderately. Warmer winter and spring temperatures cause an increased fraction of precipitation to fall as rain, resulting in a reduced snow pack, an earlier snow melt, and a longer dry season leading to decreased stream flow in the summer and a longer fire season. These changes would have a negative effect on Zuni bluehead sucker. Another major impact to populations of the Zuni bluehead sucker was the application of fish toxicants through at least two dozen treatments in the Nutria and Pescado rivers between 1960 and 1975. Large numbers of Zuni bluehead suckers were killed during these treatments. The Zuni bluehead sucker is most likely extirpated from Rio Pescado as none have been collected from that river since 1993. The discharge from the POTW is to the Puerco River Segment 20.6.4.99; a perennial stream that flows into Arizona and the Lower Colorado River Basin. This permit does not authorize activities that may cause alteration of stream flow that could cause destruction of the Zuni bluehead sucker habitat, if it is existing at the Puerco River. Additionally, the draft permit is consistent with WQS which have undergone section 7(a)(2) consultation with the USFWS and are protective of wildlife, EPA has concluded that the issuance of this permit will have no effect on the Zuni bluehead sucker.

The yellow-billed cuckoo is a Neotropical migrant bird that winters in South America and breeds in North America. The yellow-billed cuckoo has been listed as endangered. The primary cause of loss and degradation of yellow-billed cuckoo is the loss and degradation of riparian breeding habitat, which is believed to have caused the declines in the distribution and abundance of the species. Conversion to agriculture and other land uses, urbanization, dams and river flow management, stream channelization and bank stabilization, and livestock grazing are the causes of riparian habitat losses. The permit does not authorize activities that may cause destruction of the yellow-billed cuckoo habitat. Additionally, the draft permit is consistent with WQS which have undergone section 7(a)(2) consultation with the USFWS and are protective of wildlife, EPA has concluded that the issuance of this permit will have no effect on the yellow-billed cuckoo.

The Mexican spotted owl nests and roosts in forested areas exhibiting multilayered, unevenly aged tree structure, and in steep, rocky canyonlands. Forested habitats used by the owl vary throughout the species' foraging, dispersal/migration). However, the forest types believed most important to Mexican spotted owls are mixed conifer, pine-oak, and riparian habitats. The primary owl prey species are woodrats (Neotoma spp.), peromyscid mice (Peromyscus spp.), and microtine voles (Microtus spp.). At the time of the species' listing, chief threats to the owl's population in the United States were commercial-based timber harvest, although the risk of stand-replacing wildfire has come into prominence. This permit does not authorize activities that may cause destruction of habitat or reduction in available prey. Additionally, the draft permit is consistent with WQS which have undergone section 7(a)(2) consultation with the USFWS and are protective of wildlife, EPA has concluded that the issuance of this permit will have no effect on the Mexican Spotted owl.

Southwestern Willow Flycatcher 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 population 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. The permit does not authorize activities that may cause destruction of the flycatcher habitat or reduction in available prey. Additionally, the draft permit is consistent with WQS which have undergone section 7(a)(2) consultation with the USFWS and are protective of wildlife, EPA has concluded that the issuance of this permit will have no effect on the Southwestern Willow Flycatcher.

Zuni fleabane is a rare regional endemic with three known, widely scattered population centers in western New Mexico and northeastern Arizona. Zuni fleabane habitats are outcrops of coarse-textured shales on the Baca Formation in west-central New Mexico and the Chinle Formation in northwestern New Mexico and northeastern Arizona. Occupied habitats range in elevation from 7,300 to 8,400 feet and in size from less than 1 acre to about 260 acres. Shaley outcrops of suitable habitat are often nearly barren, but occur within and contain scattered vegetation from piñon juniper woodland to lower transitional forest of ponderosa pine and Douglas-fir. The two most significant threats to Zuni fleabane at this time are climate change and mineral exploration and development. The distribution of Zuni fleabane is geologically associated with the distribution of uranium deposits in west-central New Mexico. Any significant development of these deposits would seriously jeopardize the Zuni fleabane. In addition, off-road vehicles activities are becoming increasingly more popular and a potential threat to the fragile habitat of

this species. The permit does not authorize activities that may cause destruction of the Zuni fleabane habitat. Additionally, the draft permit is consistent with WQS which have undergone section 7(a)(2) consultation with the USFWS and are protective of plants, EPA has concluded that the issuance of this permit will have no effect on Zuni fleabane.

In the United States, current Mexican wolf range includes portions of Arizona and New Mexico in an area designated as the Mexican Wolf Experimental Population Area. Historically, Mexican wolves were associated with montane woodlands characterized by sparsely to densely forested mountainous terrain consisting of evergreen oaks or pinyon and juniper, to higher elevation pine, mixed-conifer forests, and adjacent grasslands at elevations of 4,000 to 5,000 ft where ungulate prey were numerous. Factors making these vegetation communities attractive to Mexican wolves likely included the abundance of ungulate prey, availability of water, and the presence of hiding cover and suitable den sites. The Mexican wolf is listed as an endangered subspecies throughout its range, without critical habitat, due to the individual and cumulative effects of excessive human-caused mortality, including illegal killing; genetic issues, including inbreeding, loss of heterozygosity, and loss of adaptive potential; and demographic stochasticity (decreases in survival or reproduction) associated with small population size. The proposed discharge is not located within the Mexican Wolf Experimental Population Area and will not affect the habitat or prey availability of the Mexican wolf. Additionally, the draft permit is consistent with WQS which have undergone section 7(a)(2) consultation with the USFWS and are protective of wildlife, EPA has concluded that the issuance of this permit will have no effect on the Mexican wolf.

X. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The applicant stated the possibility of the construction of new headworks starting potentially in 2024. The new headworks will be completely inside the existing facility boundary and will not impact any new historical and/or archeological sites. The reissuance of the permit will have no impact on historical and/or archeological sites.

XI. 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 or if changes are made to the "Water Quality Standards for Salinity - Colorado River System" by the Colorado River Basin Salinity Control Forum. 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.

XII. VARIANCE REQUESTS

None

XIII. CERTIFICATION

The permit is in the process of CWA 401 certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer of COE, to the Regional Director of FWS and to the National Marine Fisheries Service prior to the publication of that notice.

XIV. FINAL DETERMINATION

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

XV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A and 2S were received on December 5, 2022. Additional information related to the application was received on December 6, 2022, January 24, 2023, January 25, 2023, January 26, 2023, February 6, 2023, March 8, 2023, March 10, 2023, March 22, 2023, March 29, 2023.

B. 40 CFR CITATIONS

Sections 122, 124, 125, 131, 133, 136

C. MISCELLANEOUS

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, effective June 13, 2024

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

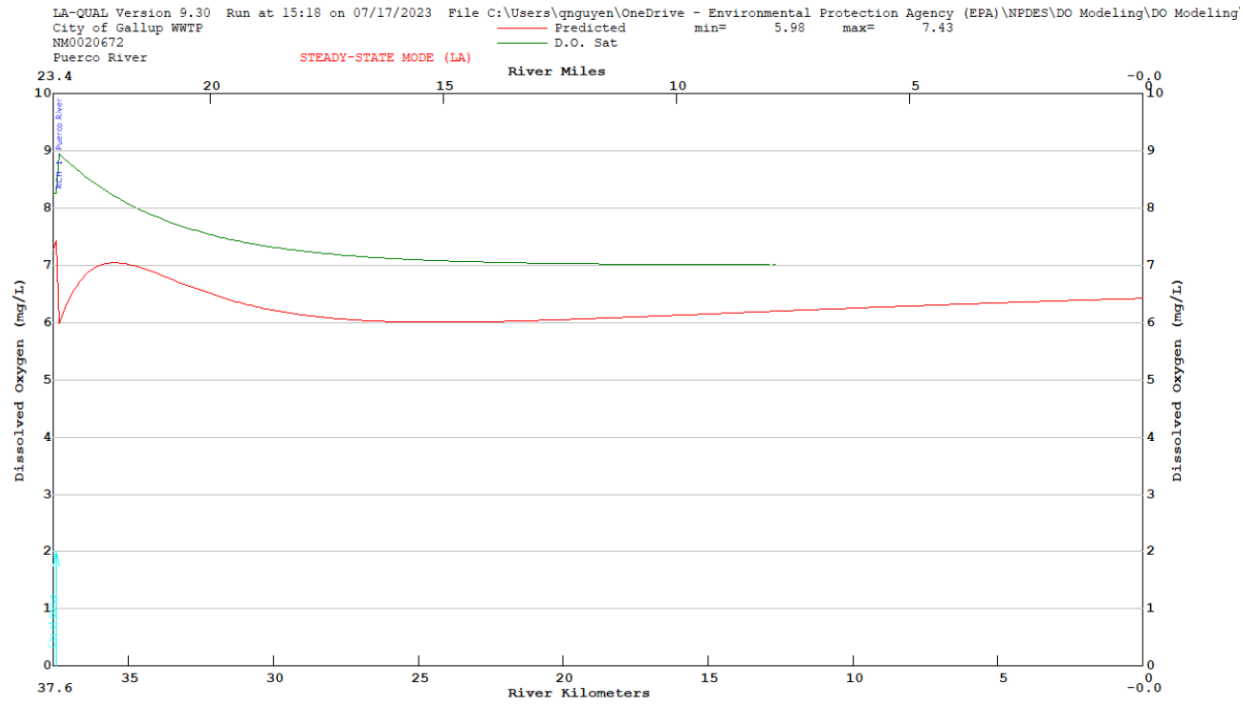
2024-2026 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report.

2023 Review, Water Quality Standards for Salinity, Colorado River System, October 2023.

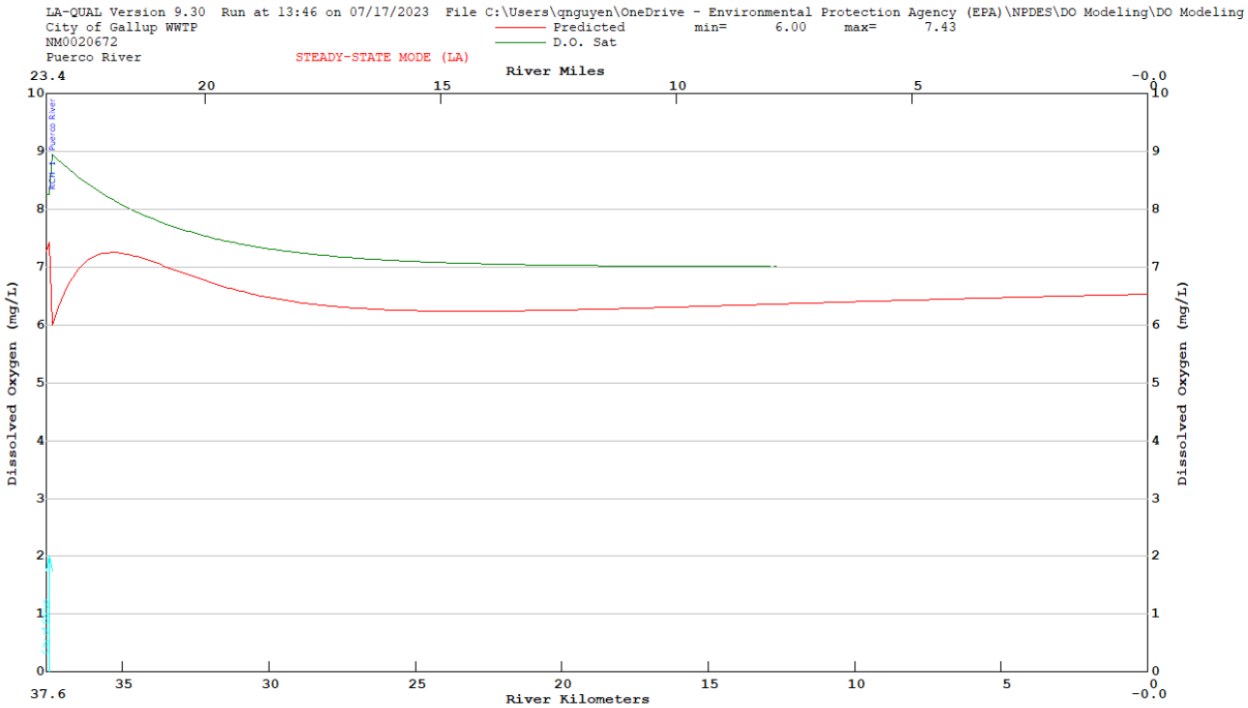
Navajo Nation Surface Water Quality Standards 2015, effective March 17, 2021.

USFWS Official Species List (obtained from http://ecos.fws.gov/ipac) on February 14, 2023.

Fact Sheet – Appendix A



30/45 Dissolved Oxygen Model: This modelling output shows an excursion of the receiving stream DO standard of 6 mg/L when the BOD_5 limits of 30 mg/L for monthly average and 45 mg/L for 7-day average were applied. Sheet).



27/33 Dissolved Oxygen Model: Various BOD_5 factors were considered and simulated to achieve the DO criterion; EPA believes the optimal levels of BOD_5 are 27 mg/L for the monthly average and 33 mg/l for the 7-day average. This modeling output shows how these limits will achieve the Navajo Nation DO WQS.