

NPDES PERMIT NO. NM0020303

FACT SHEET

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

APPLICANT

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ISSUING OFFICE

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DATE PREPARED

February 20, 2024

PERMIT ACTION

Proposed reissuance of the current permit issued with an effective date of September 1, 2018 and an expiration date of August 31, 2023.

RECEIVING WATER – BASIN

Rio Grande – Middle Rio Grande 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 ₅	Biochemical oxygen demand (five-day)
BPJ	Best professional judgment
C/100 mL	Colonies (#) per 100 Milliliters
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
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
MDL	Method detection limit
mg/L	Milligrams per Liter
µg/L	Micrograms per Liter
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
PFAS	per- and polyfluoroalkyl substances
POTW	Publicly Owned Treatment Works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USFWS United	States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plan

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued July 30, 2018, with an effective date of September 1, 2018, and an expiration date of August 31, 2023, are:

1. Added PFAS Monitoring once/6 months.
2. Added electronic reporting rules.
3. Added Sufficiently Sensitive Methods.
4. Updated WET language in draft permit.
5. Updated Critical Dilution to 12%.
6. Updated TRC limitation to 11 ug/L
7. Added one time human health testing requirements.

II. DISCHARGE LOCATION

As described in the application, the facility is a POTW located at 1960 Heaton LP, S.E., Los Lunas, Valencia County, New Mexico.

The discharge from the POTW is to the Rio Grande in Waterbody Segment No. 20.6.4.105 of the Rio Grande Basin. The outfall of the facility is located at:

Latitude 34° 46' 48" North, Longitude 106° 43' 50" West



III. APPLICANT ACTIVITY

Under the SIC Code 4952, the facility is a POTW treating domestic wastewater. The facility has a design flow of 2.7 MGD serving a total population of 15,454.

The Village of Los Lunas Wastewater Treatment Plant (WWTP) is a combination of two liquid stream treatment processes with a combined sludge treatment and disposal process. The first liquid stream treatment process is conventional activated sludge process which was first put into service in 1981 and was designed for 1.2 million gallons per day (MGD). Due to changes in discharge permit requirements, the facility was de-rated to 0.8 MGD in the mid-1900s. The second liquid stream treatment process is a membrane bioreactor (MBR) facility that is configured for biological nitrogen removal using a process configured similar to the Modified Ludzack-Ettinger configuration. The MBR was put into service in 2009 and had a design capacity of 0.9 MGD. In 2015, the MBR was upgraded with additional membrane cassettes that double the capacity to 1.8 MGD. The current total design flow for the entire WWTP is therefore approximately 2.7 MGD. The plant is currently treating a maximum of approximately 1.6 MGD.

Raw sewage is received through an 18-inch gravity line into the influent lift station. Plant drain flows from several nearby facilities and treatment structures, and a bypass line from the MBR plant are also plumbed to the influent line. The wastewater is then pumped to the entrance works structure, or it can be routed to the MBR entrance works, for preliminary treatment. The conventional activated sludge plant (CASP) entrance works consists of coarse screening via a mechanical rake bar screen while grit is removed by an aerated grit chamber. Flow is measured by a 9-inch Parshall Flume before discharging into the biological treatment process.

The biological treatment process consists of two identical trains that are divided into two zones per train. Both zones are aerated by single drop tube-style aeration devices. Oxidized wastewater then enters the secondary clarifiers, which are followed by a UV disinfection system. CASP effluent is pumped to a mixing box where it is blended with MBR plant effluent prior to discharge to the river.

The Village of Los Lunas constructed a new 24" effluent discharge line parallel to the existing 16" effluent line approximately 1,400 linear feet and discharge into the Rio Grande Bosque adjacent to the existing WWTP outfall. With the construction of the new 24" effluent discharge line, the current effluent will split into two parallel pipes under the same outfall number **001**. The permittee shall sample from splitter box and measure flow from both lines as part of the new draft permit.

The Village of Los Lunas completed a new sludge management facilities at the WWTP. The project included construction of a new building to house mechanical sludge thickening and dewatering processes, rehabilitation of the existing digester for more efficient volatile solids reduction and biological nitrogen removal, and renovation of the existing sludge thickening process. WWTP capacity was not increased. Digested sludge will be hauled to the Village's existing surface disposal site, composted with Village green waste at the Transfer Station, or hauled to the Valencia County Regional Landfill for disposal.

IV. EFFLUENT CHARACTERISTICS

The facility submitted EPA Permit Application Form 2A, received August 23, 2023, which provides a quantitative description of the discharge shown below.

POLLUTANT TABLE – 1

PARAMETER	Max. Daily	Avg. Daily
	(mg/L, unless noted)	(mg/L, unless noted)
Flow, MGD	1.83 MGD	1.24 MGD
Temperature, winter	16.80 °C (min)	20.30 °C
Temperature, summer	28.10 °C	24.70 °C
pH, minimum	6.60 s.u.	--
pH, maximum	8.00 s.u.	--
BOD ₅	41.0	4.20
E. Coli, CFU/100 mL	866	57
TSS	58.0	4.40
Ammonia (as N)	11.0	4.3
TRC, ug/L	2200	39
D.O.	5.1	6.7
Total Kjeldahl Nitrogen (TKN)	12.0	4.9
Nitrate plus Nitrite Nitrogen	9.8	6.8
Oil & Grease	0.00	0.00
Phosphorus (Total)	9.5	3.5
Total Dissolved Solids (TDS)	635	618

The facility has to sample and report all priority pollutants identified in Part D, Expanded Effluent Testing Data of EPA Permit Application Form 2A, in addition to a list of pollutants required by NMED that are not listed in Table C.

A summary of the last 3-years of available pollutant data taken from DMRs shows the following exceedances of pollutant limits.

POLLUTANT/limit	Month/Year of Exceedances
E. coli/mass	1/2023
E. coli/daily max	1/2023
E. coli/30day-avg	1/2023
TSS/7 day-avg	6/2022

V. 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 pollutant discharges into the waters of the United States. In addition, the amendments 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.

The facility submitted a complete permit application August 23, 2023 . It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The existing permit is administratively continued until this permit is issued.

VI. 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 BOD and TSS. Water quality-based effluent limitations are established in the proposed draft permit for pH, *E. coli* bacteria, D.O., and TRC.

B. 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 (Best Practicable Control Technology Currently Available) – 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 (Best Conventional Pollutant Control Technology) – Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT (Best Available Control Technology Economically Achievable) – 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.

The facility is a POTW treating sanitary wastewater. POTW's have technology-based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with ELG's established in this Chapter are BOD₅, TSS and pH. BOD₅ limits of 30 mg/L for the 30-day average, 45 mg/L for the 7-day average, and no less than 30-day average 85 percent removal (minimum) are found at 40 CFR §133.102(a). TSS limits are also 30 mg/L for the 30-day average, 45 mg/L for the 7-day average, and no less than 30-day average 85 percent removal (minimum), and are found at 40 CFR §133.102(b). The percent removal

requirements for BOD₅ and TSS are new permit limits which were not included in the previous permit. The percent removal is calculated as follows:

$$\{[(\text{influent concentration} - \text{effluent concentration}) / \text{influent concentration}] \times 100\}$$

ELG's for pH are between 6.0 – 9.0 s.u. and are found at 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 (with exceptions noted in 40 CFR §§122.45(f)(1)(i)-(iii)). 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:

$$\text{Loading in lbs/day} = \text{pollutant concentration in mg/L} \times 8.345 \text{ lbs/gal} \times \text{design flow in MGD}$$

The calculations of mass limits are as follows:

$$30\text{-day average TSS/BOD}_5 \text{ loading} = 30 \text{ mg/L} \times 8.345 \text{ lbs/gal} \times 2.7 \text{ MGD}$$

$$30\text{-day average TSS/BOD}_5 \text{ loading} = 676 \text{ lbs/day}$$

Based on 40 CFR §122.45(f), all pollutants limited in permits shall have limitations expressed in terms of mass. Limits are established in the draft permit for the 7-day average limits for BOD and TSS as follows:

$$7\text{-day average TSS/BOD}_5 \text{ loading} = 45 \text{ mg/L} \times 8.345 \text{ lbs/gal} \times 2.7 \text{ MGD}$$

$$7\text{-day average TSS/BOD}_5 \text{ loading} = 1,014 \text{ lbs/day}$$

Technology-Based Effluent Limits – based on 2.7 MGD flow

PARAMETER	DISCHARGE LIMITATIONS			
	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.
	(lbs/day)		(mg/L, unless noted)	
Flow	***	***	Measure MGD	Measure MGD
BOD ₅	676	1,014	30	45
TSS	676	1,014	30	45
Percent Removal (minimum), BOD ₅ and TSS	85% BOD ₅ & TSS (30-day average)			
pH	6.0 – 9.0 standard units			

C. WATER QUALITY BASED LIMITATIONS

1. 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 §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 are in compliance with 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.

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 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.

3. State Water Quality Standards

The general and specific stream standards are provided in “New Mexico State Standards for Interstate and Intrastate Surface Waters,” (NMWQS), 20.6.4.105 of the Rio Grande Basin, as approved by EPA effective February 8, 2023. The designated uses of the receiving water are irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat, and primary contact.

4. 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). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. BACTERIA

The applicable criteria for *E. coli* bacteria, based on the primary contact designated use for the receiving water body (see NMAC 20.6.4.900.D), are a monthly geometric mean of 126 cfu/100 mL and a single sample of 410 cfu/100 mL, same as the current permit.

In June 2010, EPA approved a NMED TMDL for the Middle Rio Grande Watershed for bacteria and a WLA was assigned to Los Lunas WWTP. For further discussion of the TMDL and limit calculations, see Section D below.

b. pH

The applicable criterion for pH, based on the primary contact designated use for the receiving water body (see NMAC 20.6.4.900.D) as well as the aquatic life marginal warmwater designated use (see NMAC 20.6.4.900.H(6)), is 6.6 to 9.0 s.u. This is more restrictive than the technology-based limits for pH.

c. TP & TN

Since the design flow rate of the WWTP is 2.7 MGD, the facility is designated as a major POTW, this draft permit will continue to include TP & TN monitoring on a quarterly basis.

d. Dissolved Oxygen

The State of New Mexico WQS criterion applicable to the warmwater aquatic life designated use is at least 5 mg/L for dissolved oxygen. 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 State of New Mexico surface water WQS for DO (i.e., 5 mg/L). Primarily based on the Los Lunas Treatment Plant's design flow of 2.7 MGD (0.118 m³/s), the receiving water critical flow of 19.509 MGD (0.855 m³/s), and various BOD5 factors including BOD5 Secondary Treatment Standards were considered and simulated to achieve the DO criterion. A complete characterization of Rio Grande (i.e., water quality and hydrodynamic data) was not available. Assumptions were made when there was no data. The following is a summary of model inputs.

The Los Lunas Wastewater Treatment Plant's design flow is 2.7 MGD (0.118 m³/s). The discharge location provided in the permit application is located at Latitude 34° 46' 48" North, and Longitude -106° 43' 50" West. Other effluent parameters provided in the permittee's NPDES application which were applied in the model include E. coli (Avg: 57 MPN/100ml), summer temperature (Avg: 24.7 °C), Nitrate/nitrite (6.8 mg/L) and effluent DO (Avg: 5.1 mg/L). NMED provided the following information. The critical low flow of Rio Grande receiving stream is approximately 19.509 MGD (0.855 m³/sec). Other parameters applied in the model include ambient E. Coli (Avg: 99 MPN/100mL), Nitrate plus Nitrite Nitrogen (Avg: 0.838 mg/L), temperature (Avg: 20.44 °C), and DO (Avg: 7.76 mg/L).

The EPA used the State of New Mexico's OpenEnviroMap to estimate the average elevation of the study area, segment length and average width of Rio Grande. The average elevation is approximately 1478.6 meter (4851 feet). The average width and depth of Rio Grande at critical conditions were assumed approximately 65 meters (195 feet) and 4 meters (12 feet), respectively, and the studied segment length is approximately 25.1 kilometers (15.6 miles).

The model results show no excursion of the receiving stream DO standard of 5 mg/L when the BOD5 limits of 30 mg/l for monthly average and 45 mg/l for 7-day maxima were applied (see graph with 30/45 mg/L BOD5 in Appendix C. Other detailed information is available upon request), however the permit will maintain the DO minimum established in the previous permit.

The model results are based on the 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.

e. TOXICS

i. General Comments

CWA §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 criteria, 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, but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of "publicly owned treatment works" (like private domestics, 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.

The facility is designated a major POTW for permitting purposes and must supply the expanded pollutant testing list described in EPA Application Form 2A as presented above in Part IV of this Fact Sheet.

Based on the pollutant data provided by the facility and shown in Part IV of this Fact Sheet, a water quality screen has been run to determine if discharged pollutant concentrations demonstrate RP to exceed WQS for the various designated uses. If RP exists, the screen would also calculate the appropriate permit limit needed to be protective of such designated uses. The screen is based on the NMIP as of March 15, 2012. The receiving stream hardness value, 115 mg/L, represents the average of values obtained from a STORET water quality station (32RGRAND446.9, "Rio Grande above Bosque Farms"), and it was used in the screen for any hardness-dependent WQS. The water quality screen is included as an attachment to the Fact Sheet.

Total Residual Chlorine demonstrated RP to violate WQS consistent with the designated uses for the receiving water, however the current daily max is consistent with the daily max recommended by the screen (19ug/L). As a result, the limitation will remain the same as in the previous permit.

ii. Critical Conditions

Critical conditions are used to establish certain permit limitations and conditions. The State of New Mexico Water Quality Standards allow a mixing zone for establishing pollutant limits in discharges. The state establishes a critical low flow designated as 4Q3, which is the minimum average four consecutive day flow that occurs with a frequency of once in three years. The Surface Water Quality Bureau of NMED provided EPA with the 4Q3 value for the Rio Grande.

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:

$CD = Q_e / (F * Q_a + Q_e)$, where:

Q_e = facility flow = 2.7 MGD

Q_a = critical low flow of the receiving waters above Bosque Farms = 29.857 CFS = 19.297MGD + 0.212 MGD (avg. flow Bosque Farms WWTP) = 19.509 MGD

F = fraction of stream allowed for mixing = 1.0

$CD = 2.7 \text{ MGD} / [(1.0) * (19.509 \text{ MGD}) + 2.7 \text{ MGD}]$
= 0.121
= 12%

iii. Total Residual Chlorine (TRC)

The facility uses UV to control bacteria. The previous permit, however, set a 19 µg/L TRC limit when chlorine is used in any process throughout the plant. The segment corresponds to 20.6.4.105 NMAC which has a designated use of Wildlife Habitat. Wildlife habitat has a NM WQS for residual chlorine of 11 ug/L. TRC limitation has been updated in the draft permit to reflect 11 ug/L. Regulations at 40 CFR

Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. Sampling and reporting is required when chlorine is used for either bacteria control and/or when chlorine is used to treat filamentous algae and/or used to disinfect process treatment equipment at the facility.

iv. PFAS

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 the New Mexico Water Quality Standards do not include numeric criteria for PFAS, the 2022 New Mexico Water Quality Standards narrative criterion supply guidance including:

20.6.4.7(E)(2) NMAC states: “**Emerging contaminants**” refer to water contaminants that may cause significant ecological or human health effects at low concentrations. Emerging contaminants are generally chemical compounds recognized as having deleterious effects at environmental concentrations whose negative impacts have not been fully quantified and may not have regulatory numeric criteria.

20.6.4.7(T)(2) NMAC states: “**Toxic pollutant**” means those pollutants, or combination of pollutants, including disease-causing agents, that after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will cause death, shortened life spans, disease, adverse behavioral changes, reproductive or physiological impairment or physical deformations in such organisms or their offspring.

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—

A. 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 draft 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 (<https://www.epa.gov/newsreleases/epa-issues-guidance-states-reduce-harmful-pfas-pollution>).

In October 2021, EPA published a PFAS Strategic Roadmap that described EPA’s commitments to action for 2021 through 2024. This roadmap includes a commitment to issue new guidance recommending PFAS monitoring in both state-issued and federally-issued NPDES permits using 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 (<https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas>).

As a result, influent, effluent and biosolids PFAS monitoring has been included in the draft permit at a monitoring frequency of once/6 months. See draft permit for further reporting requirements.

D. TMDL REQUIREMENTS

In June 2010, EPA approved a NMED TMDL for the Middle Rio Grande Watershed for bacteria. The TMDL was developed to address *E. coli* impairments in four assessment units, including the receiving water for Los Lunas WWTP’s discharge. According to the TMDL document, there are probable nonpoint and point sources of *E. coli* bacteria throughout the basin. The TMDL assigned an *E. coli* wasteload allocation (WLA) of 4.3×10^9 cfu/day to the facility. This calculation was based on the previous design capacity flow of 0.9 MGD, and applied the monthly geometric mean criteria of 126 cfu/100mL.

Based on the facility’s updated design flow of 2.7 MGD, the new WLA is 1.29×10^{10} cfu/day with an increase of 8.60×10^9 cfu/day to the WLA. These changes were incorporated in the current NPDES permit to the WLA for Los Lunas WWTP and the LA will not affect the overall TMDL. NMED’s Surface Water Quality Bureau was consulted in the development of these limits, and supports these reallocations as an application of Section IV(B)(1) of New Mexico’s Water Quality Management Plan (WQMP). Thus, the WLA of **1.29×10^{10} cfu/day** is incorporated into the draft permit as a mass-based limit for the 30-day average, in addition to the concentration-based limits that were carried forward from the previous permit. To calculate the load based on the facility’s actual discharge flow, the formula is:

$$\text{load [cfu/day]} = E. coli \text{ conc. [cfu/100mL]} * \text{flow [MGD]} * 3.79 \times 10^7 [\text{conversion factor}]$$

The segment to which the POTW discharges is also impaired for temperature. However, temperature is not a pollutant of concern for POTWs, thus monitoring and/or permit limits are not recommended at this time.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the March 15, 2012 NMIP. Table 11 of Section V of the NMIP outlines the type of WET testing for different types of discharges. Analysis of past WET data to determine RP was sent with the application.

OUTFALL 001

In Section VI.C.4.d.ii above, “Critical Conditions”, it was shown that the critical dilution (CD) for the facility is 11%. Based on the nature of the discharge – a POTW with a design flow of more than 1.0 MGD, the perennial nature of the receiving water, and the critical dilution of 12% – the NMIP directs the WET test to be a chronic test using *Ceriodaphnia dubia* and *Pimephales promelas* at a once per quarter frequency consistent with the NMIP. 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 shall be 5%, 7%, 9%, 12% and 16%.

If all WET tests pass during the first year, the permittee may request a monitoring frequency reduction for either or both test species for the following 2-5 years of the permit. The invertebrate species (*Ceriodaphnia dubia*) testing frequency may be reduced to once per six (6) months. The vertebrate species (*Pimephales promelas*) testing frequency may be reduced to once per year. If any tests fail during that time, the frequency will revert back to the once per quarter frequency for the remainder of the permit term. Both species shall resume quarterly monitoring at a once per three months frequency on the last day of the permit.

The EPA Reasonable Potential (RP) Analyzer for Outfall 001 indicates that RP does not exist for either species. WET limits will not be established in the proposed permit for the invertebrate or vertebrate species for Outfall 001. EPA concludes that this effluent does not cause or contribute to an exceedance of the State water quality standards. Therefore, WET limits will not be established in the proposed permit.

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 to the Rio Grande at segment 20.6.4.105. Discharges shall be limited and monitored by the permittee as specified below:

WHOLE EFFLUENT TOXICITY TESTING 7-DAY CHRONIC NOEC FRESHWATER (*1)	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<i>Ceriodaphnia dubia</i>	Report	Quarterly	24-hr Composite
<i>Pimephales promelas</i>	Report	Quarterly	24-hr Composite

(*1) Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

F. MONITORING FREQUENCY FOR LIMITED PARAMETERS AND APPLICATION RENEWAL

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 frequency is based on the March 15, 2012, Procedures for Implementing NPDES Permits in New Mexico (NMIP). Based on the design flow of the facility, 2.7 MGD, the NMIP recommends that limited parameters have either daily or weekly monitoring frequencies, depending on the parameter measured. Flow shall be monitored daily using an instantaneous form of measurement. *E. coli* bacteria and D.O. shall be monitored once per week using grab samples. pH shall be monitored daily using grab samples. The other parameters – BOD₅ and TSS – are monitored once per week using 24-hour composite samples. When chlorine is used in any process throughout the plant, total residual chlorine (TRC) shall be sampled daily using instantaneous grab samples. Regulations at 40 CFR Part 136 define instantaneous grab as being analyzed within 15 minutes of collection. TP and TN shall be monitored on a quarterly basis. When WET biomonitoring takes place, TP and TN should be monitored at the same time and place that WET samples are collected for that quarter. PFAS shall be monitored once every six months.

In addition to the parameters identified in this fact sheet, EPA designated major POTW's are required to sample and report other parameters listed in tables of the EPA Form 2A and WET testing for its permit renewal. The minimum pollutant testing for NPDES permit renewals specified in Form 2A requires three samples for each of the parameters being tested. Current practice is to obtain the three samples over a short time frame, sometimes within two weeks during the permit renewal testing process. In order to obtain a meaningful snapshot of pollutant testing for permit renewal purposes, the draft permit shall require that the testing for Tables A.12, B.6, and Part D of EPA Form 2A, or its equivalent if modified in the future, during the second, third and fourth years after the permit effective date. In addition, one yearly test must be during the warm summer months; defined as the period from June 1 through August 31, and another yearly test shall be sampled during cold weather; defined as the period from December 1 through February 28. The remaining yearly test may be taken during any time in that year. This testing shall coincide with any required WET testing event for that year. The permittee shall report the results as a separate attachment in tabular form sent to the Permitting Section Chief of the Water Division within 60 days of receipt of the lab analysis and shall also be reported on the NPDES permit renewal application Form 2A or its equivalent/replacement.

With the construction of the new 24" effluent discharge line, the current effluent will split into two parallel pipes under the same outfall number 001. The permittee shall sample from splitter box and measure flow from both lines as part of the new draft permit.

VII. 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 NM0020303, Parts I and Parts IV.

B. WASTE WATER 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 treatment plant indicated in Part F of its application (EPA Form 3510-2A) that it does not have any non-categorical Significant Industrial Users (SIU) or any Categorical Industrial Users (CIU).

D. OPERATION AND REPORTING

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

Electronic Reporting Rule

The EPA published the electronic reporting rule in the federal register (80 FR 64063) on October 22, 2015. The rule became effective on December 21, 2015. One year after the effective date of the final rule, NPDES regulated entities that are required to submit DMRs (including majors and non-majors, individually permitted facilities and facilities covered by general permits) must do so electronically. All DMRs shall be electronically reported effective December 21, 2016, per 40 CFR 127.16. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR@epa.gov in-box for further instructions. PA and authorized NPDES programs will begin electronically receiving these DMRs from all DMR filers and start sharing these data with each other.

Sufficiently Sensitive Analytical Methods (SSM)

The permittee must use sufficiently sensitive EPA-approved analytical methods (SSM) (under 40 CFR part 136 or required under 40 CFR chapter I, subchapters N or O) when quantifying the presence of pollutants in a discharge for analyses of pollutants or pollutant parameters under the permit. In case the approved methods are not sufficiently sensitive to the limits, the most SSM with the lowest method detection limit (MDL) must be used as defined under 40 CFR 122.44(i)(1)(iv)(A). If no analytical laboratory is able to perform a test satisfying the SSM in the region, the most SSM with the lowest MDL must be used after adequate demonstrations by the permittee and EPA approval.

VIII. 303(d) LIST

In New Mexico's 2016-2018 CWA §303(d) / 305(b) Integrated List, the Rio Grande is listed as being impaired for *E. coli* and temperature. A TMDL for *E. coli* was developed in 2010, and in Part VI.C.5 of the Fact Sheet, permit conditions were identified as being based on the approved TMDL to address the *E. coli* impairment. Temperature is also listed as impaired, but no TMDL is available right now. The standard reopener language in the permit allows additional permit conditions if warranted by future changes and/or new TMDLs. No additional pollutants are listed for this waterbody.

IX. 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 waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

X. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the CWA, 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. The proposed permit maintains limitations that are at least as stringent as or more stringent than the previous permit.

XI. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at USFWS, Southwest Region 2 website, <http://www.fws.gov/endangered/>, six species in Valencia County are listed as endangered or threatened. The Southwestern willow flycatcher (*Empidonax traillii*), Rio Grande silvery minnow (*Hybognathus amarus*) and New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) are listed as endangered. The Mexican spotted owl (*Strix occidentalis lucida*), Yellow-billed Cuckoo (*Coccyzus americanus*) and Pecos sunflower (*Helianthus paradoxus*) are listed as threatened.

The southwestern willow flycatcher (*Empidonax traillii extimus*) breeds in dense riparian habitats in southwestern North America, and winters in southern Mexico, Central America, and northern South America. Its breeding range includes far western Texas, New Mexico, Arizona, southern California, southern portions of Nevada and Utah, southwestern Colorado, and possibly extreme northern portions of the Mexican States of Baja California del Norte, Sonora, and Chihuahua. The subspecies was listed as endangered effective March 29, 1995. Approximately 900 to 1100 pairs exist.

Currently, the Rio Grande silvery minnow (*Hybognathus amarus*) is known to occur only in one reach of the Rio Grande in New Mexico, a 280 km (174 mi) stretch of river that runs from Cochiti Dam to the headwaters of Elephant Butte Reservoir. This includes a small portion of the lower Jemez River, a tributary to the Rio Grande north of Albuquerque. Its current habitat is limited to about seven percent of its former range. In December 2008, silvery minnows were introduced into the Rio Grande near Big Bend, Texas as a nonessential, experimental population under section 10(j) of the ESA (73 FR 74357). Preliminary monitoring is being conducted to determine whether or not that reintroduction has been successful. Throughout much of its historic range, the decline of the Rio Grande silvery minnow is attributed primarily to destruction and modification of its habitat due to dewatering and diversion of water, water impoundment, and modification of the river (channelization). Competition and predation by introduced non-native species, water quality degradation, and other factors also have contributed to its decline.

Yellow-billed Cuckoos (*Coccyzus americanus*) are fairly large, long, and slim birds. The mostly yellow bill is almost as long as the head, thick and slightly downcurved. They have a flat head, thin body, and very long tail. Wings appear pointed and swept back in flight. Yellow-billed Cuckoos are warm brown above and clean whitish below. Their blackish face mask is accompanied by a yellow eyering. In flight,

the outer part of the wings flash rufous. From below, the tail has wide white bands and narrower black ones.

The New Mexico meadow jumping mouse (jumping mouse) is endemic to New Mexico, Arizona, and a small area of southern Colorado. The jumping mouse is grayish-brown on the back, yellowish-brown on the sides, and white underneath. The species is about 7.4 to 10 inches (187 to 255 mm) in total length, with elongated feet (1.2 inches (30.6 mm)) and an extremely long, bicolored tail (5.1 inches (130.6 mm)). The jumping mouse is a habitat specialist. It nests in dry soils, but uses moist, streamside, dense riparian/wetland vegetation up to an elevation of about 8,000 feet. The jumping mouse appears to only utilize two riparian community types: 1) persistent emergent herbaceous wetlands (i.e., beaked sedge and reed canarygrass alliances); and 2) scrub-shrub wetlands (i.e., riparian areas along perennial streams that are composed of willows and alders). The New Mexico meadow jumping mouse has seen a significant population decline. This decline is mainly due to habitat loss and fragmentation across its range. About 95 percent of the range is found on federal and state lands. Based on the further threat of habitat loss, the U.S. Fish and Wildlife Service (USFWS) designated the New Mexico meadow jumping mouse as endangered under the Endangered Species Act (ESA) on June 9, 2014.

Unlike most owls, Mexican spotted owls (*Strix occidentalis lucida*) have dark eyes. They are an ashy-chestnut brown color with white and brown spots on their abdomen, back and head. Their brown tails are marked with thin white bands. They lack ear tufts. Young owls less than 5 months old have a downy appearance. Females are larger than males. The primary threats to its population in the U.S. (but likely not in Mexico) have transitioned from timber harvest to an increased risk of stand-replacing wildland fire. Recent forest management now emphasizes sustainable ecological function and a return toward pre-settlement fire regimes, both of which are more compatible with maintenance of spotted owl habitat conditions than the even-aged management regime practiced at the time of listing.

Pecos sunflower (*Helianthus paradoxus*) is a wetland plant that grows on wet, alkaline soils at spring seeps, wet meadows, stream courses and pond margins. It has seven widely spaced populations in west-central and eastern New Mexico and adjacent Trans-Pecos Texas. These populations are all dependent upon wetlands from natural groundwater deposits. Incompatible land uses, habitat degradation and loss, and groundwater withdrawals are historic and current threats to the survival of Pecos sunflower.

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. No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.
2. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.
3. EPA determines that Items 1 and 2 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have “no effect” on listed species and designated critical habitat.

XII. HISTORICAL and ARCHAEOLOGICAL PRESERVATION CONSIDERATIONS

Archaeological resources must be considered as early in the planning construction process as possible. Several laws and regulation govern the treatment of archaeological resources. In all cases for federally-funded projects, compliance with these laws are mandatory.

XIII. ENVIRONMENTAL JUSTICE

Executive Order 13985, Advancing Racial Equity and Supporting for Underserved Communities through the Federal Government signed on January 20, 2021, directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities.” The EPA strives to enhance the ability of overburdened communities to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. “Overburdened” communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, the EPA Region 6 will consider prioritizing enhanced public involvement opportunities for EPA-issued permits that may involve activities with significant public health or environmental impacts on already overburdened communities. For more information, please visit <http://www.epa.gov/ejscreen>.

For fiscal year 2024, the NPDES Section is trying a new approach, conducting community meetings with overburdened communities in New Mexico and embedding Environmental Justice (EJ) early in the Permitting process. The focus is on enabling overburdened communities to have full and meaningful access to the permitting process. This effort will emphasize on communities that have an 80% percentile or higher for the Wastewater Discharge EJ Index. This will help Region 6 NPDES permit writers and managers decide early in the permitting process when and how to conduct an EJ analysis for an EPA-issued permit and what, if any, permit terms or other actions may be appropriate to address EJ concerns. Los Lunas WWTP was one of the facilities in which the community had an EJ Index for Wastewater Discharge of 82% percentile (>80% percentile). The NPDES Section coordinated a virtual early engagement with the community of Los Lunas on December 7, 2023. Pre-registered stakeholders for this virtual meeting included representatives from NMED, Amigos Bravos, New Mexico State University, an engineering consultant, and a non-profit organization called Empower New Mexico; however, it was noted that attendance was lower than anticipated during the actual virtual meeting. During the virtual meeting, Region 6 discussed the objectives, the community of concern, water quality of the receiving waters and how communities can keep involved during and after the permitting process.

XIV. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State Water Quality Standards are promulgated or revised. In addition, if the State amends a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XV. VARIANCE REQUESTS

No variance requests have been received.

XVI. CERTIFICATION

The permit is in the process of 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, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XVII. FINAL DETERMINATION

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

XVIII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 1 and 2A with attachments received August 23, 2023.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of February 1, 2024. Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended by the New Mexico Water Quality Control Commission (WQCC) on September 24, 2022 and approved by the U.S. Environmental Protection Agency (EPA) on February 8, 2023.

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

2022-2024 State of New Mexico Clean Water Act 303(d)/305(b) Integrated Report.

Total Maximum Daily Load for Middle Rio Grande Watershed, April 13, 2010.

D. Other

US Fish and Wildlife Service (USFWS), IPaC – Information for Planning and Consultation , <https://ipac.ecosphere.fws.gov/>

EJSCREEN: Environmental Justice Screening and Mapping Tool website, <https://www.epa.gov/ejscreen>