NPDES PERMIT NO. NM0031178
FACT SHEET

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

APPLICANT

Camino Real Regional Utility Authority
North Wastewater Treatment Plant
P.O. Box 429
Sunland Park, NM 88063

ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
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DATE PREPARED

March 27, 2025

PERMIT ACTION

Renewal of a permit previously issued on November 30, 2018, with an effective date of December 30, 2018, and an expiration date of December 29, 2023.

RECEIVING WATER – BASIN

Rio Grande River

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
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CRRUA	Camino Real Regional Utility Authority
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
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
ug/l	Micrograms per litter (one part per billion)
mg/l	Milligrams per liter (one part per million)
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 Poly- Fluoroalkyl Substances
POTW	Publicly owned treatment works
RAS	Return activated sludge
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TBELs	Technology-based effluent limitations
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
UV	Ultraviolet Light
WET	Whole effluent toxicity
WLA	Waste-load Allocation
WQBELs	Water quality-based effluent limitations
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

As used in this document, references to State water quality standards and/or rules, regulations and/or management plans may mean the State of New Mexico and/or State of Texas or both.

I. CHANGES FROM THE PREVIOUS PERMIT

This is a new permit. The EPA did not receive a complete application prior to the previous permit expiration date (December 29, 2023). This prevented the previous permit from being Administratively Continued under 5 U.S.C. 558(c).

II. APPLICANT LOCATION AND ACTIVITY

As described in the application, the wastewater treatment plant is located at 5500 McNutt Road, Sunland Park, Doña Ana County, New Mexico. Under the Standard Industrial Classification Code 4952, the facility is a POTW has a design capacity of 1.0 MGD serving Santa Teresa and Santa Teresa Industrial Park having a total population of 5044.

The treatment process include headworks- primary screening and grit removal, two stage activated sludge secondary treatment, clarification, RAS/WAS pumping, aerobic digestion, belt press sludge dewatering and UV Disinfection system.

The facility is constructing viewpoint lift station No. 2. This will give CRRUA the ability to send a certain amount of flow to the Sunland Park Plant (Permit #NM0029483). The project is approximately 80% complete.

The discharge is to the Rio Grande River Segment 20.6.4.101 NMAC. The outfall is located at Latitude 31° 50’ 12” North, Longitude 106° 36’ 24” West. The facility discharge point into Rio Grande is in the State of New Mexico waters approximately 4 miles upstream of the State of Texas’ boundary.

III. 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.

The application was submitted on October 26, 2023. Additional information were received on January 29 and 31, 2024. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

IV. RECEIVING STREAM STANDARDS

The CRRUA North Wastewater Treatment Plant is classified as a major municipal discharger under the federal Clean Water Act's Section 402 NPDES permit program. The discharge is to the Rio Grande (International Mexico bnd to Anthony Bridge) in stream segment 20.6.4.101 NMAC. This stream segment has the following designated uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat, and primary contact.

V. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received on October 26, 2023, and in the supplemental information provided via email on January 29 and 31, 2024, are presented below in Tables 1 and 2:

Table 1: Effluent Characterization

Parameter	Maximum	Average
Flow	0.856 MGD	0.783 MGD
Temperature, winter	52.7 ºF	62.64 ºF
Temperature, summer	88.4 ºF	83.66 ºF
pH, minimum	7.64 s.u.	N/A
pH, maximum	8.16 s.u.	N/A
Biochemical Oxygen Demand, (BOD)	32.57 mg/L	12.96 mg/L
Fecal Coliform (bacteria/100 ml)	358.25	18.14
Total Suspended Solids (TSS)	50.48 mg/L	17.09 mg/L
Ammonia Nitrogen	0.764 mg/L	0.764 mg/L
Nitrate-Nitrite Nitrogen	15.9 mg/L	15.9 mg/L
Nitrate-Nitrogen, Total	15.2 mg/L	15.2 mg/L
Phosphorus, Total	14.3 mg/L	14.3 mg/L

The facility must sample and report all the priority pollutants identified in Part D, Expanded Effluent Testing Data of Form 2A. From that list, the pollutants in Table 2 below were either tested above MQLs or were tested at levels above EPA MQL and reported as being non detect. When a pollutant was tested at a detection level that was greater than the EPA MQL then for screening purposes that pollutant was assumed to have a concentration at that detection level. For toxics that were tested at the minimum quantification level (MQL) and reported as less than the MQL, those pollutants are not shown.

Table 2: Effluent Characterization

Parameter	Maximum	Average
Boron, dissolved	0.751 mg/L	0.751 mg/L
Selenium, Total	0.00485 mg/L	0.00485 mg/L
Arsenic, dissolved	0.0172 mg/L	0.0172 mg/L
Barium, dissolved	0.0246 mg/L	0.0246 mg/L
Chromium, dissolved	0.000816 mg/L	0.000816 mg/L
Molybdenum, dissolved	0.034 mg/L	0.034 mg/L
Nickel, dissolved	0.00235 mg/L	0.00235 mg/L
Vanadium, dissolved	0.0017 mg/L	0.0017 mg/L
Zinc, dissolved	0.0543 mg/L	0.0543 mg/L
Copper, dissolved	0.00466 mg/L	0.00466 mg/L
Uranium	0.008 mg/L	0.007 mg/L
Ra-226/Ra-228	2.46 pCi/L	1.36 pCi/L
Strontium-90	0.309 pCi/L	0.0458 pCi/L

Parameter	Maximum	Average
Gross Alpha	18.7 pCi/L	8.746 pCi/L
Hardness (CaCO3)	200 mg/L	194.94 mg/L
Aluminum	0.048 mg/L	0.0449 mg/L
Aluminum, dissolved	0.0411 mg/L	0.0333 mg/L
Magnesium	11 mg/L	9.839 mg/L
Molybdenum	0.037 mg/L	0.0344 amg/L
Benzyl Butyl phthalate	4.31 ug/L	4.31 ug/L
Bis(2-ethylhexyl)phthalate	3.65 ug/L	3.65 ug/L

A summary of the last 36 months of available pollutant data (i.e., October 2020 through October 2023) taken from DMRs indicates the facility experienced several exceedances of permit limits (shown in parenthesis) for TSS percent removal (1), E. coli (9), TSS (2), and BOD_5 (3).

VI. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

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

Following regulations promulgated at 40 CFR 122.44, the draft permit limits are based on either technology-based effluent limit pursuant to 40 CFR 122.44(a) or on State WQS and requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

Technology-based effluent limitations are established in the proposed draft permit for TSS, BOD_5 and percent removal for both. Water quality-based effluent limitations are established in the proposed permit for pH.

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. 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 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). ELG's for pH are between 6-9 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. When determining mass limits for POTW's, the plant's design flow is used to establish the mass load. Mass limits in Table 3 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 * 1 MGD
30-day average TSS loading = 250 lbs/day

7-day average TSS loading = 45 mg/l * 8.345 lbs/gal * 1 MGD
7-day average TSS loading = 376 lbs/day

30-day average BOD_5 loading = 30 mg/l * 8.345 lbs/gal * 1 MGD
30-day average BOD_5 loading = 250 lbs/day

7-day average BOD_5 loading = 45 mg/l * 8.345 lbs/gal * 1 MGD
7-day average BOD_5 loading = 376 lbs/day

Technology-Based Effluent Limits - 1 MGD design flow

Table 3: Discharge Limitations

Parameter	**30-Day Avg.**	**7-Day Avg.**	**30-Day Avg.**	**7-Day Avg.**
BOD_5	250 lbs/day	376 lbs/day	30 mg/l	45 mg/l
BOD_5, % removal *1	≥ 85	---	---	---
TSS	250 lbs/day	376 lbs/day	30 mg/l	45 mg/l
TSS, % removal *1	≥ 85	---	---	---
pH	N/A	N/A	6 - 9 standard units*2	

Footnotes:

*1 % removal is calculated using the following equation: [(average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration] * 100.
*2 The pH based on stream segment specific WQS are more stringent than pH technology-based limits of 6.0-9.0 standard units. See C.5.a below.

The facility will be required to monitor the influent of BOD_5 and TSS on a once per week frequency for use in determining the removal percentage. The facility shall diligently maintain a log. The influent data is not required to be reported in NetDMR but must be kept at the facility and made available to EPA or its agents upon request.

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 Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit 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.

The facility discharge point into Rio Grande is in the State of New Mexico waters approximately four miles upstream of the State of Texas' boundary. Since 40 CFR §122.4(d) requires NPDES permits be protective of a downstream state's water quality standards, the State of Texas water quality standards have been considered.

2. Implementation

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

criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State of New Mexico Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC effective September 24, 2022). The facility discharges to Rio Grande (International Mexico bnd to Anthony Bridge), Segment number 20.6.4.101 NMAC. The designated uses of the receiving water are irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat, and primary contact.

4. State of Texas Water Quality Standards

The general and specific stream standards for the State of Texas (TX) are provided in the EPA-approved partially Texas Water Quality Standards, Texas Administrative Code (TAC), 30 TAC Sections 307.1 - 307.10, adopted September 7, 2022. The designated uses of the receiving water (Segment 2314-Rio Grande above international boundary) are primary contact recreation, high aquatic life use and public water supply. The 2022 Integrated Report – Texas 303(d) List (Category 5) indicates the Segment 2314 is not supporting the primary contact recreation designated use due to bacteria problems.

The State of Texas WQS and State of New Mexico WQS are very similar. Protection of the NMWQS at the point of discharge would be protective of downstream State of Texas waters. There are differences between New Mexico and Texas WQS for some of parameters. These are provided in the section below.

5. Permit Action – Water Quality-Based Limits

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

All applicable facilities are required to fill out appropriate sections of the Form 2A 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 like 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.

a. pH

The State of New Mexico WQS to protect the primary contact and marginal warmwater aquatic life uses requires pH to be between 6.6 and 9.0 s.u., which is specified in 20.6.4.900.D NMAC. This is more stringent than the technology-based limits and the downstream State of Texas segment specific

WQS for pH (i.e., 6.5 s.u. to 9.0 s.u.). The EPA proposes limits of 6.6 to 9.0 s.u. for pH in the draft permit.

b. E. coli Bacteria

The NMWQS for E. coli designed to protect the primary contact use requires a 30-day average (geometric mean) limit of 126 cfu/100 mL or less (which is like the State of Texas segment specific WQS for E. coli bacteria) and a single sample limit of 410 cfu/100 ml or less. These limits and the monthly average mass load of 2.53×10^9 cfu/day are required in the EPA approved total maximum daily load (TMDL) for E. coli. The EPA proposes them in the draft permit.

c. Dissolved Oxygen

The discharge is to Rio Grande (International Mexico bnd to Anthony Bridge) in stream segment 20.6.4.101 NMAC. Marginal warmwater aquatic life, which is one of designated uses for this stream segment, requires a DO minimum of at least 5 mg/L, which is like the State of Texas segment specific WQS for DO. The low flow or 4Q3 of the receiving stream which was provided by NMED is zero (0). Since 4Q3 is zero, the discharge must meet end-of-pipe criteria. The discharge, in this case, must meet the DO criterion of 5 mg/L following final treatment and prior to discharge into the receiving water.

d. Total Phosphorus and Total Nitrogen

The facility is designated as a major POTW with a design flow rate of 1.0 MGD. To protect and maintain existing and downstream water quality and to prevent further degradation of water quality in the Rio Grande, EPA proposes Total Nitrogen (TN), Total Phosphorous (TP) to be monitored once per month in the draft permit.

e. TDS, Sulfate and Chloride

The Rio Grande stream segment 20.6.4.101 NMAC has flow-dependent criteria for total dissolved solids (TDS), chloride and sulfate. The criteria are applied when the mean monthly streamflow in the Rio Grande is above 350 cubic feet per second (cfs). The water quality criteria are 2,000 mg/L or less (for TDS), 500 mg/L or less (for Sulfate) and 400 mg/L or less (for Chloride). The State of Texas Water Segment 2314 (Rio Grande) water quality criteria for TDS, Sulfate and Chloride are 1800 mg/l, 600 mg/l and 340 mg/L, respectively. The facility has not been required to monitor for these parameters. No data were provided in the renewal application (i.e., Form 2A). The EPA proposes that TDS, Sulfate and Chloride to be monitored once per week by 6-hour composite sampling to determine if effluent limits will be required in the future permits.

f. Adjusted Gross Alpha Value

The Rio Grande in water quality standards segment 20.6.4.101 NMAC has the following designated uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact. To protect livestock watering, the New Mexico water quality criterion for “adjusted gross alpha” is 15 pCi/L (see 20.6.4.900.J).

Evaluating values, the following mathematical relationship was used:

[Adjusted Gross Alpha] (pCi/L) = [Gross Alpha] (pCi/L) – {[Uranium] ug/L) * 0.67}

A conversion factor of 0.67 (pCi/L)/(µg/L) is used to convert uranium concentrations (in µg/L) to uranium activity (in pCi/L) prior to subtraction.

LIVESTOCK WATERING SCREENING

Parameters	**Effluent Conc.**
Gross Alpha	18.7 (pCi/L)
Uranium	8 ug/L
Calculated Adjusted Gross Alpha	13.34 (pCi/L)
Criterion (to protect livestock watering)	15 pCi/L
Does RP exist?	No

Preliminary toxic analysis shows no RP exist. Permit limitations are not required for "adjusted gross alpha" in the draft permit. However, EPA proposes "adjusted gross alpha", gross alpha and natural uranium to be monitored once every 6 months by grab sampling to determine if effluent limits will be required in future permits.

g. Boron

The 2022-2024 State of New Mexico CWA §303(d) / §305(b) Integrated Report identifies the receiving stream segment number 20.6.4.101 NMAC of the Rio Grande is not supporting for irrigation uses due to Boron problems. August 2023, NMED developed a draft Boron TMDL for Lower Rio Grande, which is pending for approval by NM WQCC. Since the TMDL has not been approved yet, EPA proposes Total Recoverable Boron to be monitored once per month in the draft permit. Once the TMDL(s) is approved, this permit will 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.

h. Temperature

The State of Mexico does not have temperature criteria for the receiving stream segment number 20.6.4.101 NMAC of the Rio Grande. Meanwhile, Texas Water Segment 2314 (Rio Grande) Water Quality Standard for Temperature is 92 ^{o}F. The data submitted in the application shows that the facility effluent temperatures (i.e, maximum and average) are well below the Texas WQS. No limits will be proposed in the draft permit. However, EPA proposes Temperature to be monitored daily by grab sampling in the draft permit.

i. Toxics

1) Total Residual Chlorine (TRC)

The facility uses ultraviolet light to treat E. coli. The facility does not have a chlorination treatment system as a backup. However, chlorine may be used for maintenance, or other purposes in the future. These usages may cause chlorine to be in the facility discharge. If chlorine may be used, there, however, will be a permit requirement that will limit its discharge during those times. This will be

through a specific chemical limitation. The implementation to protect NMWQS from chlorine toxicity is to limit chlorine as "no measurable amount". Specifically, after de-chlorination and prior to final disposal, the effluent shall contain "NO MEASUREABLE" total residual chlorine at any time. "NO MEASUREABLE" will be defined as no detectable concentration of TRC as determined the minimum quantification level of TRC becomes less than 11 ug/L. The EPA proposes the TRC limit of 11 µg/L when chlorine is used in the draft permit. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

2) Per- and Polyfluoroalkyl Substances (PFAS)

The EPA currently has no data indicating that PFAS is present in the CRRUA WWTP effluent. 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 (*EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan,* EPA 823R18004, February 2019). The 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;".*

The 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.

The EPA has included PFAS monitoring in the draft permit using analytical Method 1633 (see https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas for more information). Table 4 lists Region 6 recommended PFAS monitoring frequencies for different facility type.

Table 4: Region 6 Recommended Monitoring Frequencies

Facility Type [1,2]	**Measurement Frequency**
Minor (< 0.1 MGD)	Once/Term
Minor (0.1 ≤ 1.0 MGD) [2,3]	3/Term
Major (if NOT in an applicable category) [2]	Once/6 Months
Major (if IS in an applicable category) [2]	Quarterly
Major (with required pretreatment OR discharge is > 5 MGD)	Quarterly

Footnotes:

1. These recommended frequencies are only for facilities where an applicable ELG for PFAS does not apply. These frequencies may be altered if an industry category is known or suspected to discharge PFAS or based on the permit writer's BPJ.
2. More information on PFAS is available at https://www.epa.gov/pfas.
3. PFAS samples must be collected and analyzed in three separate calendar years

3) Reasonable Potential – The State of New Mexico

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 an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, but also to facilities that are like 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 the EPA Application Form 2A. The WWTP is classified as a "major" discharger with a design flow more than 1.0 MGD. They completed Part D, "Expanded Effluent Testing Data" of form 2A and submitted to EPA as a part of their October 26, 2023, application. The facility also submitted additional data on January 29 and 31, 2024. The submitted data are presented in the Tables 1 and 2 of Section III.

The EPA conducted a water quality screen which is based on the March 15, 2012, NMIP to determine if discharged pollutant concentrations demonstrate RP to exceed WQS for the various designated uses. If RP exists, the screen model will calculate the appropriate permit limit needed to be protective of such designated uses as required by 40 CFR 122.44(d)(1)(iii).

The result of the preliminary RP analysis (see Appendix 1) indicates that Arsenic (Dissolved), Selenium (Total recoverable), Bis(2-ethylhexyl)Phthalate, and Butyl Benzyl Phthalate have RP to violate New Mexico WQS consistent with the designated uses for the receiving waterbody. The proposed permit limits for these pollutants are listed in Table 5 below. The facility shall have a 3-year compliance schedule to achieve final limitations for these pollutants. The draft permit will require compliance schedule reports.

Table 5: Effluent limits

Parameters	**Daily Max.**	**Monthly Avg.**	**Daily Max Loading**	**Monthly Avg. Loading**
Arsenic, Dissolved	9 ug/L	9.69 ug/L	0.162 lbs/day	0.15 lbs/day
Selenium, Total Recoverable	5 ug/L(1)	5 ug/L(1)	0.083 lbs/day	0.083 lbs/day
Bis(2-ethylhexyl)Phthalate	4.182 ug/L	3.7 ug/L	0.07 lbs/day	0.062 lbs/day
Butyl Benzyl Phthalate	1.115 ug/L	1 ug/L	0.0186 lbs/day	0.0167 lbs/day

Footnotes:

(1) Proposed permit limits are more stringent than the downstream State of Texas calculated permit limits (see Section C.5.i.4)

4) Reasonable Potential – State of Texas

The State of Texas Water Quality Standard (TWQS) found at 30 TAC Chapter 307 states that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Procedures to Implement the Texas Surface Water Quality Standards" (IP) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed

to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

Outfall 001 discharges directly to Rio Grande (International Mexico bnd to Anthony Bridge) in the State of New Mexico stream segment 20.6.4.101 NMAC thence to Rio Grande Segment 2314 of Rio Grande basin. To ensure downstream State of Texas WQS are protected, EPA, for consistency, attempts to follow the IP, where appropriate. Procedures found in the IP for determining significant reasonable potential are to compare the reported analytical data either from the DMR history and/or the application information, against percentages of the calculated daily average water quality-based effluent limitation (i.e., 70% and 85%). For instance, the IP recommends monitoring for the toxic pollutant be included as a condition in the permit if the average of the effluent data equals or exceeds 70% but is less than 85% of the calculated daily average limit. If the average of the effluent data is equal to or greater than 85% of the calculated daily average limit, the permit shall contain effluent limits for the toxic pollutant.

The critical low flow for the receiving stream is 0.0 cfs, and harmonic mean is 0.429 cfs. For the reasonable potential calculations, EPA used the TCEQ'S TEXTOX Menu 3 along with data obtained from the permit application and from table D-23 of the 2010 IP. The results indicated that effluent Selenium-concentrations are exceeding 85% of the calculated daily average limits for Aquatic Life (see Appendix 2).

The calculated permit limits for Selenium (i.e., Daily Max of 12 ug/L and 30-day Avg. of 5.7 ug/L) are less stringent than the ones proposed for the State of New Mexico. For the draft permit, EPA proposes limits shown in Table 4 above for Selenium.

5) 303(d) List Impairment

The 2022-2024 State of New Mexico CWA §303(d) / §305(b) Integrated Report identifies the receiving stream segment number 20.6.4.101 NMAC of the Rio Grande is not supporting for irrigation uses due to boron problems. August 2023, NMED developed a draft Boron TMDL for Lower Rio Grande, which is pending for approval by NM WQCC. Since the TMDL has not been approved yet, EPA proposes Total Recoverable Boron to be monitored in the draft permit. Once the TMDL(s) is approved, this permit will 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.

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 frequency is based on the March 2012, NMIP with design flows between 1 MGD and 5 MGD. Sample frequency and type for limited parameters are shown in Table 6.

Table 6: Monitoring Frequency for Limited Parameters

Parameter	**Frequency**	**Sample Type**
Flow	Continuous	Totalized Meter
pH, Temperature	Daily	Instantaneous Grab
BOD_5, TSS, TDS, Sulfate, Chloride	Once/Week	6-Hr Composite
Dissolved Oxygen	Once/Week	Grab
% Removal	Once/Week	Calculation
TRC (if necessary)	Daily	Instantaneous Grab
E. coli Bacteria	1/Week	Grab
Boron (Total Recoverable)	1/Month	Grab
Total Nitrogen, Total Phosphorous	1/Month	6-hour Composite
Dissolved Arsenic, Total Selenium, Bis(2-ethylhexyl)Phthalate, Butyl Benzyl Phthalate	2/Week	Grab
Adjusted Gross Alpha, Uranium, Gross Alpha	1/6 Months	Grab
PFAS Analytes	3/Permit Term	Grab

E. Whole Effluent Toxicity Limitations

The State of New Mexico has established narrative criteria, which in part state that:

"...surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, 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...." (NM WQS Section 20.6.4.13.F.)

Critical conditions are used to establish certain permit limitations and conditions. The State of New Mexico WQS allows a mixing zone for establishing pollutant limits in discharges. The state establishes a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years.

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

$$CD = Qe/(F \cdot Qa + Qe)$$

where:

Qe = facility design flow (1 MGD)
Qa = critical low flow of the receiving waters (0 MGD)
F = fraction of stream allowed for mixing (1.0)

CD = (1.0 MGD/[(1.0)(0 MGD) + 1.0 MGD])*100 = 100%

The critical dilution shall be 100%.

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 previous permit required the facility to conduct chronic 7-day biomonitoring testings using *Ceriodaphnia dubia* and *Pimephales promelas*. The EPA conducted an analysis of the facility past WET data to determine reasonable potential. The results show reasonable potential exists for *Ceriodaphnia dubia* and *Pimephales promelas* (see Appendix 3). Both species will now have a WET limit. Due to current classification of receiving stream (perennial), effluent dominated receiving stream (4Q3 = 0 cfs and 100% CD), aquatic life protection and existing reasonable potential, the previous permit requirements of conducting the 7-day chronic tests for *Ceriodaphnia dubia* and *Pimephales promelas* at a once per quarter will be remained in the draft permit, with a limit to both species.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These effluent concentrations shall be 32%, 42%, 56%, 75%, and 100%. 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 treated sanitary wastewater from Outfall 001 to Rio Grande. Discharges shall be limited and monitored by the permittee as specified in Table 7 below:

Table 7: Whole Effluent Toxicity Testing

WHOLE EFFLUENT TOXICITY (7-day Chronic Static Renewal/NOEC) [1/]	**VALUE**	**MEASUREMENT FREQUENCY**	**DMR REPORTING FREQUENCY**	**SAMPLE TYPE**
Pimephales promelas	100 %	Once/Quarter	Monthly	24-Hr Composite
Ceriodaphnia dubia	100 %	Once/Quarter	Monthly	24-Hr Composite

Footnotes:

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

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". EPA may later issue a sludge-only permit. Until such future issuance of a sludge-only permit, sludge management and disposal at the facility will be subject to Part 503 sewage sludge requirements. Part 503 regulations are self-implementing, which means that facilities must comply with them if a sludge-only permit has been issued. Part IV of the draft permit contains sewage sludge permit requirements.

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

The treatment plant has 7 non-categorical Significant Industrial Users and no Categorical Industrial Users. The 7 non-categorical Significant Industrial Users are Northwire, Sterigenics, Georgia Pacific (Vista Corrugated), Franklin Mountain, IHR Transload, Stampede Meat, and Union Pacific. The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program at this time and will address the need for an approved Pretreatment program in the reissuance of the City of Sunland Park Wastewater Treatment Plant (NM0029483) NPDES permit. The 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 Section 307(b) of the CWA and 40 CFR Part 403.

D. OPERATION AND REPORTING

The applicant is required to always operate the treatment facility at maximum efficiency; 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.

VIII. ANTIDEGRADATION

Since the facility did not submit to EPA a complete permit renewal application prior to their previous permit expiration date (December 29, 2023), this requires the State of New Mexico to conduct an evaluation if an antidegradation review is needed to ensure the discharge having no potential to adversely affect water quality or existing designated uses. The letter from Shelly Lemon, Bureau Chief, to Mr. Brent Larsen, Permitting Section Manager, and Mr. Juan Carlos Crosby, Executive Director, dated March 6, 2025, indicated that NMED has done an evaluation study. The study primarily focused on whether there were any changes in water quality standards since the last CRRUA WWTP permit renewal, if there were any changes in baseline water quality of the receiving stream or downstream waters, and if there were any changes in permit conditions since the last permit. Based on the study, NMED concludes no antidegradation review is needed since there are no new or increased water quality impacts resulting from the discharge.

The State of New Mexico (Section 20.6.4.8 of the NMAC) has antidegradation requirements to protect existing uses through implementation of their WQS. The limitations and monitoring requirements set forth in the proposed draft are developed from the appropriate the State of New Mexico WQS and are protective of those designated uses.

Furthermore, the policy's set 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.

VIII. 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. The proposed permit maintains the $CBOD_5$ and TSS mass loading requirements and the pH concentration limit of the previous permit. Dissolved Oxygen, Arsenic (Dissolved), Selenium (Total recoverable), Bis(2-ethylhexyl)Phthalate, and Butyl Benzyl Phthalate limits have been added to make more stringent in the draft permit to protect designated uses..

IX. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=35013, five species in Dona Ana County, New Mexico are listed as endangered (E) or threatened (T). Five species include the Chihuahua chub (*Gila nigrescens*) (T), Mexican wolf (*Canis lupus baileyi*) (E), Southwestern willow flycatcher (*Empidonax traillii extimus*)(E), Sneed pincushion cactus (*Coryphantha sneedii var. sneedii*)(E), and Yellow-billed Cuckoo (*Coccyzus americanus*)(T).

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 no information determining that the reissuance of this permit will have "effect" on the listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

The Chihuahua chub (*Gila nigrescens*) is endemic to the Guzman Basin, where it occurs from the Mimbres River in New Mexico, southward to northwestern Chihuahua, Mexico. They average 5-6 inches in length at maturity and may reach 12 inches. The Chihuahua chub is dependent upon habitat comprised of deep pools with undercut banks or over-hanging vegetation. Chubs are rather trout-like in much of their feeding taking terrestrial insects on the surface as well as aquatic invertebrates and perhaps some fish and vegetation. The decline of the Chihuahua chub in the Mimbres River appears to be primarily related to loss of habitat. This loss has been due to severe flooding caused by degradation of the watershed and loss of riparian vegetation, and to action taken by local landowner to protect their property from future flooding. The Mimbres River has been channelized and leveed by local landowners in effort to confine flood waters. As a result, chub habitat has been destroyed. The EPA determines that this permitting action will have no effect on the specie. The permit does not authorize activities that may cause destruction or modification the Chihuahua chub habitat, and issuance of the permit will have no effect on this species.

The Mexican wolf (*Canis lupus baileyi*) is a top predator native to the southwestern United States and Mexico that lives in packs and requires large amounts of forested terrain with adequate ungulate (deer and elk) populations to support the pack. Today, Mexican wolves again inhabit portions of the southwestern United States in Arizona and New Mexico, and the northern Sierra Madre Occidental of Chihuahua in Mexico. Mexican wolves are present in these areas due to ongoing reintroduction efforts in both countries, supported by the binational captive breeding program. The threats to the Mexican wolf have generally remained consistent over time, including human- caused mortality and related legal protections, extinction risk due to small population size, and genetic issues. The permit does not authorize activities that may cause destruction of the Mexican wolf habitat, and issuance of the permit will have no effect on this species.

The southwestern willow flycatcher is a small passerine bird, approximately 15 cm in length. It has a grayish green back and wings, whitish throat, light gray-olive breast, and pale yellowish belly. The southwestern willow flycatcher's breeding range includes southern California, Arizona, New Mexico, western Texas, southwestern Colorado, southern portions of Nevada and Utah, and extreme northwestern Mexico. Willow flycatchers are neotropical migrant songbirds that winter in southern Mexico, central America, and extreme northern south America. Migration routes of willow flycatchers in New Mexico approximate breeding habitat with migrants and breeders often located in the same habitat patches. In New Mexico, the southwestern willow flycatcher is known to summer in the Rio Grande, Gila, San Francisco, Zuni, Chama and San Juan River basins. Southwestern willow flycatchers' nest in dense riparian vegetation approximately 4 to 7 m high, often with high percentage of canopy cover. Generally, in New Mexico nesting habitat consists of dense coyote willow patches with sparse overstory of cottonwood. However, willow flycatchers are known to nest in habitat which is also a mix of riparian species including tree willow, saltcedar, Russian olive, box elder, and other riparian vegetation. Threats to the southwestern willow flycatcher include habitat loss due to water diversion and flood plain channelization for agricultural and urban use and flood control, replacement of native riparian vegetation by exotics, and livestock grazing. Individual populations are threatened by small size, nest parasitism by brown-headed cowbirds and nest predation. At the site of the discharge, riparian and wetland species are not in dense stands suitable for nesting, but this area may provide forage. Riparian areas in the Southwest have been drastically affected by human activity since the mid-1800s although the development of irrigation ditches expanded wetland portions of the Mora valley vega. Riparian ecosystems throughout the Southwest have been altered due to impoundments, overgrazing, mining, and conversion to agriculture. The loss of riparian habitat to common agricultural practices is one of the key reasons why the Southwestern willow flycatcher is listed as an endangered species. Based upon the data, the effluent discharge will have no effect the Southwestern willow flycatcher or its habitat.

The Sneed pincushion cactus (*Coryphantha sneedii var. sneedii*) occurs in west Texas and southern New Mexico. The Sneed pincushion cactus grows in semi-desert grassland. It is restricted to limestone and grows in cracks on vertical cliffs or ledges. The cactus is threatened by direct collection by commercial or private collectors and destruction or modification of habitat, and natural threats. The EPA determines that this permitting action will have no effect on the species. The permit does not authorize activities that may cause destruction or modification the Sneed pincushion cactus habitat, and issuance of the permit will have no effect on this species.

The Yellow-billed cuckoo (*Coccyzus americanus*) 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, and issuance of the permit will have no effect on this species.

The proposed permit does not authorize constructions and land development, nor will cause release of toxic pesticides or spread of disease. Based on the information available to EPA, that the reissuance of this permit will have no effect on these federally listed threatened or endangered species.

X. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

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

XI. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the New Mexico WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing a State's WQS are either revised or promulgated. Should either New Mexico adopt a new WQS, 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

No variance requests have been received.

XIII. 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.

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 Forms 2A, 2S and addendum were received on October 26, 2023, January 29 and 31, respectively.

B. 40 CFR CITATIONS

§§ 122, 124, 125, 127, 131, 133, 136

C. MISCELLANEOUS

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, effective September 24, 2022

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

State of New Mexico Statewide Water Quality Management Plan And Continuing Planning Process, December 17, 2002.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2022-2024.

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.10, adopted September 7, 2022.

Procedures to Implement the Texas Surface Water Quality Standards, June 2010

2022 Integrated Report - Texas 303(d) List, July 7, 2022

APPENDIX 1

		CALCULATIONS OF NEW MEXICO WATER QUALITY-BASED EFFLUENT LIMITATIONS			
NMAC 20.6.4.	NMWQS as of 2023 (EPA Approved January 19, 2023)				
Calculations Specifications:		Excel	Revised (in red text) as of February 2023		
Prepared By:	Quang Nguyen		25-Apr-24	6:31 AM	
STEP 1:	REFERENCE IMPLEMENTATION PROCEDURES		APPENDIX 1		
	INPUT FACILITY AND RECEIVING STREAM DATA		of FACT SHEET		
	LIST SOURCE OF DATA INPUT				
IMPLEMENTATION PROCEDURES					
The State of New Mexico Standards for Interstate and Intrastate Surface Waters are implemented in this spread sheet					
by using procedures established in the current "Procedures for Implementing NPDES Permits in New Mexico"					
FACILTY			DATA INPUT		
Permittee			Camino RUA		
NPDES Permit No.			NM0031178		
Outfall No.(s)			1		
Plant Effluent Flow (MGD)			2	For industrial and federal facility, use the highest monthly average flow	
Plant Effluent Flow (cfs)			3.1	for the past 24 months. For POTWs, use the design flow.	
RECEIVING STREAM			DATA INPUT		
Receiving Stream Name			Rio Grande		
Basin Name			Rio Grande Basin		
Waterbody Segment Code No.			20.6.4.101		
Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)			0		
Are acute aquatic life criteria considered (1= yes, 0= no)			1		
Are chronic aquatic life criteria considered (1= yes, 0=no)			1		
Are domestic water supply criteria considered (1= yes, 0=no)			0		
Are irrigation water supply criteria considered (1= yes, 0=no)			1		
Livestock watering and wildlife habitat criteria applied to all streams					
USGS Flow Station			USGS		
WQ Monitoring Station No.			SJR		
Receiving Stream TSS (mg/l)			254.16	For intermittent stream, enter effluent TSS	
Receiving Stream Hardness (mg/l as CaCOs)		RANGE: 0 - 400	20	For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)	
Receiving Stream Critical Low Flow (4Q3) (cfs)			0	Enter "0" for intermittent stream and lake.	
Receiving Stream Harmonic Mean Flow (cfs)			0.429	Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available	
Avg. Receiving Water Temperature (C)			27.67		
pH (Avg), Receiving Stream			8.63		
Fraction of stream allowed for mixing (F)			1	Enter 1, if stream morphology data is not available or for intermittent streams.	
Fraction of Critical Low Flow			0		

STEP 2: INPUT AMBIENT AND EFFLUENT DATA

CALCULATE IN-STREAM WASTE CONCENTRATIONS

DATA INPUT

Input pollutant geometric mean concentration as micro-gram per liter (ug/l or ppb)
unless other unit is specified for the parameter.
Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, input "1/2 DL" for calculation.
Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, no data is inputted.
If a less than MQL vakue is reported, input either the reported value or "0" for calculation.

The following formular is used to calculate the Instream Waste Concentration (Cd)
See the current "Procedures for Implementing NPDES Permits in New Mexico"
Cd = [(F*Qa*Ca) + (Qe*2.13*Ce)] / (F*Qa + Qe)
Where:
Cd = Instream Waste Concentration
F = Fraction of stream allowed for mixing (see "Procedures for Implementing NPDES Permits in New Mexico")
Ce = Reported concentration in effluent
Ca = Ambient stream concentration upstream of discharge
Qe = Plant effluent flow
Qa = Critical low flow of stream at discharge point expressed as the 4Q3 or harmonic mean flow for human health criteria

The following formular convert metals reported in total form to dissolved form if criteria are in dissolved form
See the current "Procedures for Implementing NPDES Permits in New Mexico"
Kp = Kpo * (TSS**a) — Kp = Linear partition coefficient; Kpo and a can be found in table below
C/Ct = 1/ (1 + Kp*TSS* 10^-6) — TSS = Total suspended solids concentration found in receiving stream (or in effluent for intermittent stream)
Total Metal Criteria (Ct) = Cr / (C/Ct) — C/Ct = Fraction of metal dissolved; and Cr = Dissolved criteria value

		Stream Linear Partition Coefficient					Lake Linear Partition Coefficient				
Total Metals	Total Value	Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Stream	Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Lake
Arsenic		480000	-0.73	8423.895681	0.31836819	#VALUE!	480000	-0.73	8423.895681	0.31836819	#VALUE!
Chromium III	0.82	3360000	-0.93	19480.02813	0.168037744	0.13779095	2170000	-0.27	486497.6977	0.008022575	0.0065785
Copper	4.66	1040000	-0.74	17268.47594	0.185564705	0.86473152	2850000	-0.9	19509.60059	0.167825781	0.7820681
Lead	0	2800000	-0.8	33348.19021	0.105532254	0	2040000	-0.53	108373.5626	0.035033357	0
Nickel	2.35	490000	-0.57	20858.59131	0.1586944	0.37293184	2210000	-0.76	32848.14131	0.106966932	0.2513723
Silver		2390000	-1.03	7964.114277	0.330670413	0	2390000	-1.03	7964.114277	0.330670413	0
Zinc	54.3	1250000	-0.7	25902.09976	0.1318691	7.16049211	3340000	-0.68	77316.74632	0.048424217	2.629435

The following formular is used to calculate hardness dependent criteria
(Please refer to State Water Quality Standards for details)

			Dissolved WQC (ug/l)	
Aluminum (T)	Acute	e(1.3695[ln(hardness)]+1.8308)	377.4565069	If Stream pH < 6.5, enter 750 in cell O114
	Chronic	e(1.3695[ln(hardness)]+0.9161)	151.2229667	If Stream pH < 6.5, enter 87 in cell P114
Cadmium (D)	Acute	e(0.8968[ln(hardness)]-3.5699)*CF1	0.418091688	CF1 = 1.136672 - 0.041838*ln(hardness)
	Chronic	e(0.7647[ln(hardness)]-4.2180)*CF2	0.142116028	CF2 = 1.101672 - 0.041838*ln(hardness)

										Dissolved						
										WQC (ug/l)						
Chromium III (D)			Acute			0.316 e(0.819[ln(hardness)]+3.7256)				152.4888787						
			Chronic			0.860 e(0.819[ln(hardness)]+0.6848)				19.8356702						
Copper (D)			Acute			0.960 e(0.9422[ln(hardness)]-1.700)				2.949857764						
			Chronic			0.960 e(0.8545[ln(hardness)]-1.702)				2.263769249						
Lead (D)			Acute			e(1.273[ln(hardness)]-1.46)*CF3				10.79154489		CF3 = 1.46203 - 0.145712*ln(hardness)				
			Chronic			e(1.273[ln(hardness)]-4.705)*CF4				0.420531012		CF4 = 1.46203 - 0.145712*ln(hardness)				
Manganese (D)			Acute			e(0.3331[ln(hardness)]+6.4676)				1746.691001						
			Chronic			e(0.3331[ln(hardness)]+5.8743)				965.048559						
Nickel (D)			Acute			0.998 e(0.846[ln(hardness)]+2.255)				119.9874916						
			Chronic			0.997 e(0.846[ln(hardness)]+0.0584)				13.32690594						
Silver (D)			Acute			0.85 e(1.72[ln(hardness)]-6.59)				0.201924903						
Zinc (D)			Acute			0.978 e(0.9094[ln(hardness)]+0.9095)				37.02425804						
			Chronic			0.986 e(0.90947[ln(hardness)]+0.6235)				28.04834719						
						Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
POLLUTANTS				Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
				Conc.	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
		CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Radioactivity, Nutrients, and Chlorine																
Aluminum, total		7429-90-5	2.5	10	48	102.24	102.24	102.24	91.0269198	1E+100	1E+100	1E+100	377.4565069	151.22297	1E+100	N/A
Aluminum, dissolved		7429-90-5			41.1	87.543	87.543	87.543	76.9009068	1E+100	5000	1E+100	1E+100	1E+100	1E+100	N/A
Barium, dissolved		7440-39-3	100	100	24.6	52.398	52.398	52.398	58.1846982	2000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Boron, dissolved		7440-42-8	100	190	75.1	159.963	159.963	159.963	163.614423	1E+100	750	5000	1E+100	1E+100	1E+100	N/A
Cobalt, dissolved		7440-48-4	50			0	0	0	0	1E+100	50	1000	1E+100	1E+100	1E+100	N/A
Uranium, dissolved		7440-61-1	0.1	0	0	0	0	0	0	30	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Vanadium, dissolved		7440-62-2	50			0	0	0	0	1E+100	100	100	1E+100	1E+100	1E+100	N/A
Ra-226 and Ra-228 (pCi/l)				0.74	2.46	5.2398	5.2398	5.2398	4.69278549	5	1E+100	30	1E+100	1E+100	1E+100	N/A
Strontium (pCi/l)				16.9	0.309	0.65817	0.65817	0.65817	2.63259479	8	1E+100	1E+100	1E+100	1E+100	1E+100	Need TMDL
Tritium (pCi/l)						0	0	0	0	20000	1E+100	20000	1E+100	1E+100	1E+100	N/A
Gross Alpha (pCi/l)				0	0	0	0	0	0	15	1E+100	15	1E+100	1E+100	1E+100	N/A
Asbestos (fibers/l)						0	0	0	0	7000000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Total Residual Chlorine		7782-50-5	33			0	0	0	0	1E+100	1E+100	11	19	11	1E+100	N/A
Ammonia as N, total (mg/l)				0.1	0.764	1.62732	1.62732	1.62732	1.44165259	1E+100	1E+100	1E+100	Criterion	Criterion	1E+100	N/A
Nitrate as N (mg/l)					15.2	32.376	32.376	32.376	28.440238	10	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Nitrite + Nitrate (mg/l)				0.3	15.9	33.867	33.867	33.867	29.7864551	1E+100	1E+100	132	1E+100	1E+100	1E+100	N/A
METALS AND CYANIDE																
Antimony, dissolved (P)		7440-36-0	60			0	0	0	0	6	1E+100	1E+100	1E+100	1E+100	640	N/A
Arsenic, dissolved (P)		7440-38-2	0.5	4	17.2	36.636	36.636	36.636	32.6686313	10	100	200	340	150	9	N/A
Beryllium, dissolved		7440-41-7	0.5	0	0	0	0	0	0	4	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Cadmium, dissolved		7440-43-9	1			0	0	0	0	5	10	50	0.418091688	0.142116	1E+100	N/A
Chromium (III), dissolved		16065-83-1	10	0	0.13779095	0.293494724	0.29349472	0.29349472	0.25781628	1E+100	1E+100	1E+100	152.4888787	19.83567	1E+100	N/A
Chromium (VI), dissolved		18540-29-9	10			0	0	0	0	1E+100	1E+100	1E+100	16	11	1E+100	N/A
Chromium, dissolved		7440-47-3				0	0	0	0	100	100	1000	1E+100	1E+100	1E+100	N/A
Copper, dissolved		7440-50-8	0.5	0	0.864731524	1.841878145	1.84187815	1.84187815	1.61797173	1300	200	500	2.949857764	2.2637692	1E+100	N/A
Lead, dissolved		7439-92-1	0.5	0	0	0	0	0	0	15	5000	100	10.79154489	0.420531	1E+100	N/A
Manganese, dissolved		7439-96-5				0	0	0	0	1E+100	1E+100	1E+100	1746.691001	965.04856	1E+100	N/A

					Instream Waste Concentration										
			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Livestock& Wildlife	Acute Aquatic	Chronic Aquatic	Human Health	Need TMDL
POLLUTANTS	CAS No.	MQL	Conc Ca (ug/l)	Conc. Ce (ug/l)	Aquatic 2.13*Ce	Supply Cd,dom (ug/l)	Aquatic Cd (ug/l)	Health Cd,hh (ug/l)	Criteria ug/l	Criteria ug/l	Criteria ug/l	Criteria ug/l	Criteria ug/l	Criteria ug/l	
Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77	1E+100	N/A
Mercury, total	7439-97-6	0.005			0	0	0	0	2	1E+100	0.77	1E+100	1E+100	1E+100	N/A
Molybdenum, dissolved	7439-98-7		7	34	72.42	72.42	72.42	64.4672712	1E+100	1000	1E+100	1E+100	1E+100	1E+100	N/A
Molybdenum, total recoverable	7439-98-7			37	78.81	78.81	78.81	69.2295268	1E+100	1E+100	1E+100	7920	1895	1E+100	N/A
Nickel, dissolved (P)	7440-02-0	0.5		0.372931841	0.794344821	0.79434482	0.79434482	0.69778094	700	1E+100	1E+100	119.9874916	13.326906	4600	N/A
Selenium, dissolved (P)	7782-49-2	5			0	0	0	0	50	130	50	1E+100	1E+100	4200	N/A
Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100	4200	N/A
Selenium, total recoverable	7782-49-2	5		4.85	10.3305	10.3305	10.3305	9.07468121	1E+100	1E+100	5	20	5	1E+100	N/A
Silver, dissolved	7440-22-4	0.5		0	0	0	0	0	1E+100	1E+100	1E+100	0.201924903	1E+100	1E+100	N/A
Thalllium, dissolved (P)	7440-28-0	0.5			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	0.47	N/A
Zinc, dissolved	7440-66-6	20	0	7.160492115	15.2518482	15.2518482	15.2518482	13.3977697	10500	2000	25000	37.02425804	28.048347	26000	N/A
Cyanide, total recoverable	57-12-5	10			0	0	0	0	200	1E+100	5.2	22	5.2	140	N/A
Dioxin	1746-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100	5.1E-08	N/A
VOLATILE COMPOUNDS															
Acrolein	107-02-8	50			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	400	N/A
Acrylonitrile	107-13-0	20			0	0	0	0	0.65	1E+100	1E+100	1E+100	1E+100	70	N/A
Benzene	71-43-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	160	N/A
Bromoform	75-25-2	10			0	0	0	0	44	1E+100	1E+100	1E+100	1E+100	1200	N/A
Carbon Tetrachloride	56-23-5	2			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	50	N/A
Chlorobenzene	108-90-7	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	800	N/A
Clorodibromomethane	124-48-1	10			0	0	0	0	4.2	1E+100	1E+100	1E+100	1E+100	210	N/A
Chloroform	67-66-3	50	0	0	0	0	0	0	57	1E+100	1E+100	1E+100	1E+100	2000	N/A
Dichlorobromomethane	75-27-4	10			0	0	0	0	5.6	1E+100	1E+100	1E+100	1E+100	270	N/A
1,2-Dichloroethane	107-06-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	6500	N/A
1,1-Dichloroethylene	75-35-4	10			0	0	0	0	7	1E+100	1E+100	1E+100	1E+100	20000	N/A
1,2-Dichloropropane	78-87-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	310	N/A
1,3-Dichloropropylene	542-75-6	10			0	0	0	0	3.5	1E+100	1E+100	1E+100	1E+100	120	N/A
Ethylbenzene	100-41-4	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	130	N/A
Methyl Bromide	74-83-9	50			0	0	0	0	49	1E+100	1E+100	1E+100	1E+100	10000	N/A
Methylene Chloride	75-09-2	20			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	10000	N/A
1,2,4,5-Tetrachlorobenzene	95-94-3				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.03	N/A
1,1,2,2-Tetrachloroethane	79-34-5	10			0	0	0	0	1.8	1E+100	1E+100	1E+100	1E+100	30	N/A
Tetrachloroethylene	127-18-4	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	290	N/A
Tolune	108-88-3	10			0	0	0	0	1000	1E+100	1E+100	1E+100	1E+100	520	N/A
1,2-trans-Dichloroethylene	156-60-5	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,1,1-Trichloroethane	71-55-6				0	0	0	0	200	1E+100	1E+100	1E+100	1E+100	200000	N/A
1,1,2-Trichloroethane	79-00-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	89	N/A
Trichloroethylene	79-01-6	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	70	N/A
Vinyl Chloride	75-01-4	10			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	16	N/A
ACID COMPOUNDS															
2-Chlorophenol	95-57-8	10			0	0	0	0	175	1E+100	1E+100	1E+100	1E+100	800	N/A
2,4-Dichlorophenol	120-83-2	10			0	0	0	0	105	1E+100	1E+100	1E+100	1E+100	60	N/A
2,4-Dimethylphenol	105-67-9	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	3000	N/A
3-Methyl-4-chlorophenol	59-50-7				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	2000	N/A
2-Methyl-4,6-dinitrophenol	534-52-1	50			0	0	0	0	14	1E+100	1E+100	1E+100	1E+100	30	N/A

					Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
		Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
POLLUTANTS		Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
	CAS No. MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
2,4-Dinitrophenol	51-28-5 50			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	300	N/A
Pentachlorophenol	87-86-5 50			0	0	0	0	1	1E+100	1E+100	19	15	30	N/A
Phenol	108-95-2 10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A
2,4,5-Trichlorophenol	95-95-4			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	600	N/A
2,4,6-Trichlorophenol	88-06-2 10			0	0	0	0	32	1E+100	1E+100	1E+100	1E+100	28	N/A
2-(2,4,5Trichlorophenoxy)propionic acid (Silvex)				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	400	N/A
BASE/NEUTRAL														
Acenaphthene	83-32-9 10			0	0	0	0	2100	1E+100	1E+100	1E+100	1E+100	90	N/A
Anthracene	120-12-7 10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	400	N/A
Benzidine	92-87-5 50			0	0	0	0	0.0015	1E+100	1E+100	1E+100	1E+100	0.11	N/A
Benzo(a)anthracene	56-55-3 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.013	N/A
Benzo(a)pyrene	50-32-8 5			0	0	0	0	0.2	1E+100	1E+100	1E+100	1E+100	0.0013	N/A
3,4-Benzofluoranthene	205-99-2 10			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.0013	N/A
Benzo(k)fluoranthene	207-08-9 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.13	N/A
Bis(2-chloroethyl)Ether	111-44-4 10			0	0	0	0	0.3	1E+100	1E+100	1E+100	1E+100	22	N/A
Bis(2-chloro-1-methylethyl) ethe	108-60-1 10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	4000	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7 10	0.22	3.65	7.7745	7.7745	7.7745	6.85614338	6	1E+100	1E+100	1E+100	1E+100	3.7	N/A
Bis(chloromethyl) ether	542-88-1			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.17	N/A
Butyl Benzyl Phthalate	85-68-7 10	0.17	4.31	9.1803	9.1803	9.1803	8.08497025	7000	1E+100	1E+100	1E+100	1E+100	1	N/A
2-Chloronapthalene	91-58-7 10			0	0	0	0	2800	1E+100	1E+100	1E+100	1E+100	1000	N/A
Chrysene	218-01-9 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	1.3	N/A
2,4-Dichlorophenoxyacetic acid	94-75-7			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	12000	N/A
Dibenzo(a,h)anthracene	53-70-3 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.0013	N/A
1,2-Dichlorobenzene	95-50-1 10			0	0	0	0	600	1E+100	1E+100	1E+100	1E+100	3000	N/A
1,3-Dichlorobenzene	541-73-1 10			0	0	0	0	469	1E+100	1E+100	1E+100	1E+100	10	N/A
1,4-Dichlorobenzene	106-46-7 10			0	0	0	0	75	1E+100	1E+100	1E+100	1E+100	900	N/A
3,3'-Dichlorobenzidine	91-94-1 5			0	0	0	0	0.78	1E+100	1E+100	1E+100	1E+100	1.5	N/A
Diethyl Phthalate	84-66-2 10			0	0	0	0	28000	1E+100	1E+100	1E+100	1E+100	600	N/A
Dimethyl Phthalate	131-11-3 10			0	0	0	0	350000	1E+100	1E+100	1E+100	1E+100	2000	N/A
Di-n-Butyl Phthalate	84-74-2 10			0	0	0	0	3500	1E+100	1E+100	1E+100	1E+100	30	N/A
2,4-Dinitrotoluene	121-14-2 10			0	0	0	0	1.1	1E+100	1E+100	1E+100	1E+100	17	N/A
1,2-Diphenylhydrazine	122-66-7 20			0	0	0	0	0.44	1E+100	1E+100	1E+100	1E+100	2	N/A
Fluoranthene	206-44-0 10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	20	N/A
Fluorene	86-73-7 10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	70	N/A
Hexachlorobenzene	118-74-1 5			0	0	0	0	1	1E+100	1E+100	1E+100	1E+100	0.00079	N/A
Hexachlorobutadiene	87-68-3 10			0	0	0	0	4.5	1E+100	1E+100	1E+100	1E+100	0.1	N/A
Hexachlorocyclohexane (HCH)-T	608-73-1			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.1	N/A
Hexachlorocyclopentadiene	77-47-4 10			0	0	0	0	50	1E+100	1E+100	1E+100	1E+100	4	N/A
Hexachloroethane	67-72-1 20			0	0	0	0	25	1E+100	1E+100	1E+100	1E+100	1	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5 5	0	0	0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.013	N/A
Isophorone	78-59-1 10			0	0	0	0	368	1E+100	1E+100	1E+100	1E+100	18000	N/A
Nitrobenzene	98-95-3 10			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	600	N/A
Nitrosamines	Various			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	12.4	N/A
Nitrosodibutylamine	924-16-3			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	2.2	N/A
Nitrosodiethylamine	55-18-5			0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	12.4	N/A

n-Nitrosodimethylamine	62-75-9	50			0	0	0	0	0.0069	1E+100	1E+100	1E+100	1E+100	30	N/A
n-Nitrosodi-n-Propylamine	621-64-7	20			0	0	0	0	0.05	1E+100	1E+100	1E+100	1E+100	5.1	N/A
n-Nitrosodiphenylamine	86-30-6	20			0	0	0	0	71	1E+100	1E+100	1E+100	1E+100	60	N/A
N-Nitrosopyrrolidine	930-55-2				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	340	N/A
Nonylphenol	84852-15-3				0	0	0	0	1E+100	1E+100	1E+100	28	6.6	1E+100	N/A
Pentachlorobenzene	608-93-5				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.1	N/A
Pyrene	129-00-0	10			0	0	0	0	1050	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,2,4-Trichlorobenzene	120-82-1	10			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	0.76	N/A
					Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
POLLUTANTS			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
PESTICIDES AND PCBS															
Aldrin	309-00-2	0.01	0	0	0	0	0	0	0.021	1E+100	1E+100	3	1E+100	0.0000077	N/A
Alpha-BHC	319-84-6	0.05			0	0	0	0	0.056	1E+100	1E+100	1E+100	1E+100	0.0039	N/A
Beta-BHC	319-85-7	0.05			0	0	0	0	0.091	1E+100	1E+100	1E+100	1E+100	0.14	N/A
gamma-BHC (Lindane)	58-89-9	0.05			0	0	0	0	0.2	1E+100	1E+100	0.95	1E+100	4.4	N/A
Chlordane	57-74-9	0.2	0	0	0	0	0	0	2	1E+100	1E+100	2.4	0.0043	0.0032	N/A
Dichlorodiphenyldichloroethane (DDD)					0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.0012	N/A
Dichlorodiphenyldichloroethylene (DDE)					0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.00018	N/A
Dichlorodiphenyltrichloroethane (DDT)					0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.0003	N/A
4,4'-DDT and derivatives	50-29-3	0.02	0	0	0	0	0	0	1	1E+100	0.001	1.1	0.001	1E+100	N/A
Dieldrin	60-57-1	0.02	0	0	0	0	0	0	0.022	1E+100	1E+100	0.24	0.056	0.000012	N/A
Diazinon	333-41-5				0	0	0	0	1E+100	1E+100	1E+100	0.17	0.17	1E+100	N/A
Alpha-Endosulfan	959-98-8	0.01			0	0	0	0	62	1E+100	1E+100	0.22	0.056	30	N/A
Beta-Endosulfan	33213-65-9	0.02			0	0	0	0	62	1E+100	1E+100	0.22	0.056	40	N/A
Endosulfan sulfate	1031-7-8	0.1	0	0	0	0	0	0	62	1E+100	1E+100	1E+100	1E+100	40	N/A
Endrin	72-20-8	0.02	0	0	0	0	0	0	2	1E+100	1E+100	0.086	0.036	0.03	N/A
Endrin Aldehyde	7421-93-4	0.1			0	0	0	0	10.5	1E+100	1E+100	1E+100	1E+100	1	N/A
Heptachlor	76-44-8	0.01	0	0	0	0	0	0	0.4	1E+100	1E+100	0.52	0.0038	0.000059	N/A
Heptachlor Epoixde	1024-57-3	0.01			0	0	0	0	0.2	1E+100	1E+100	0.52	0.0038	0.00032	N/A
PCBs	336-36-3	0.2			0	0	0	0	0.5	1E+100	0.014	2	0.014	0.00064	N/A
Toxaphene	8001-35-2	0.3	0	0	0	0	0	0	3	1E+100	1E+100	0.73	0.0002	0.0071	N/A

STEP 3: SCAN POTENTIAL INSTREAM WASTE CONCENTRATIONS AGAINST WATER QUALITY CRITERIA
AND ESTABLISH EFFLUENT LIMITATIONS FOR ALL APPLICABLE PARAMETERS

No limits are established if the receiving stream is not designated for the particular uses.
No limits are established if the potential instream waste concentrations are less than the chronic water quality criteria.
The most applicable stringent criteria are used to establish effluent limitations for a given parameter.
Water quality criteria apply at the end-of-pipe for acute aquatic life criteria and discharges to public lakes.
If background concentration exceeds the water quality criteria, water quality criteria apply. And "Need TMDL" shown to the next column of Avg. Mass
Monthly avg concentration = daily max. / 1.5.

APPLICABLE WATER QUALITY-BASED LIMITS

The following formular is used to calculate the allowable daily maximum effluent cincentration — See the current "Procedures for Implementing NPDES Permits in New Mexico"

Daily Max. Conc. = Cs + (Cs - Ca)(F*Qa/Qe) — Monthly Avg. Conc. = Daily Max. Conc. / 1.5

Where:
Cs = Applicable water quality standard
Ca = Ambient stream concentration
F = Fraction of stream allowed for mixing (1.0 is assigned to domestic water supply and human health uses)
Qe = Plant effluent flow
Qa = Criteria Low flow (4Q3) or Harmonic Mean flow for Human Health Criteria

Radioactivity, Nutrients, and Chlorine, as Total															
Aluminum, Total	7429-90-5	01105		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum, dissolved	7429-90-5			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barium, Total	7440-39-3	01007		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Boron, Total	7440-42-8	01022		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cobalt, Total	7440-48-4	01037		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium, Total	7440-61-1	22706		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium, Total	7440-62-2	01087		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ra-226 and Ra-228 (pCi/l)		11503		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Strontium (pCi/l)		13501		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tritium (pCi/l)		04124		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gross Alpha (pCi/l)		80029		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asbestos (fibers/l)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Residual Chlorine	7782-50-5	50060		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia as N, total (mg/l)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate as N (mg/l)		00620		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite + Nitrate (mg/l)		00630		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS AND CYANIDE, as Total															
Antimony, Total (P)	7440-36-0	01097		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic, Total (P)	7440-38-2	1002		N/A	N/A	N/A	N/A	N/A	9.691935484	9.691935484	9	30.44253728	28.269156	0.50778152	0.471529521
Beryllium, Total	7440-41-7	01012		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium, Total	7440-43-9	01027		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (III), dissolved	16065-83-1	01033		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (VI), dissolved	18540-29-9	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium, Total	7440-47-3	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper, Total	7440-50-8	01042		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead, Total	7439-92-1	01051		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese, dissovled	7439-96-5	01056		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Dissolved	7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Total	7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, dissolved	7439-98-7	1060		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, total recoverable	7439-98-7	01062		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nickel, Total (P)	7440-02-0	01067		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (P)	7782-49-2	01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (SO4 >500 mg/l)		01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total recoverable	7782-49-2	01147		N/A	N/A	5	N/A	5	N/A	5	5	5	5	0.0834	0.0834
Silver, Total	7440-22-4	01077		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thalllium, Total (P)	7440-28-0	01059		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zinc, Total	7440-66-6	1092		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide, total recoverable	57-12-5	00720		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIOXIN															0
2,3,7,8-TCDD	1746-01-6	34675		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VOLATILE COMPOUNDS															
Acrolein	107-02-8	34210		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acrylonitrile	107-13-0	34215		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	71-43-2	34030		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Bromoform	75-25-2	32104	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	56-23-5	32102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	108-90-7	34301	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clorodibromomethane	124-48-1	32105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroform	67-66-3	32106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorobromomethane	75-27-4	32101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	107-06-2	34531	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethylene	75-35-4	34501	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloropropane	78-87-5	34541	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichloropropylene	542-75-6	34561	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	34371	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Bromide	74-83-9	34413	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride	75-09-2	34423	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	95-94-3		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane	79-34-5	34516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethylene	127-18-4	34475	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tolune	108-88-3	34010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-trans-Dichloroethylene	156-60-5	34546	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	71-55-6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloroethane	79-00-5	34511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloroethylene	79-01-6	39180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	75-01-4	39175	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACID COMPOUNDS														
2-Chlorophenol	95-57-8	34586	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenol	120-83-2	34601	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	105-67-9	34606	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Methyl-4-chlorophenol	59-50-7		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methyl-4,6-dinitrophenol	534-52-1	34657	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrophenol	51-28-5	34616	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	87-86-5	39032	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	108-95-2	34694	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-Trichlorophenol	95-95-4		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-Trichlorophenol	88-06-2	34621	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-(2,4,5Trichlorophenoxy)propionic acid (Silvex)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BASE/NEUTRAL														
Acenaphthene	83-32-9	34205	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	120-12-7	34220	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzidine	92-87-5	39120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	34526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	50-32-8	34247	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,4-Benzofluoranthene	205-99-2	34230	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	207-08-9	34242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloroethyl)Ether	111-44-4	34273	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloro-1-methylethyl) ether	108-60-1	34283	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7	39100	N/A	N/A	N/A	N/A	N/A	4.181587097	4.181587097	3.7	4.181587097	3.7	0.06974887	0.061716
Bis(chloromethyl) ether	542-88-1		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Daily Avg Load lb/day
Butyl Benzyl Phthalate	85-68-7	34292	N/A	N/A	N/A	N/A	N/A	1.11486129	1.11486129	1	1.11486129	1	0.01859589	0.01668
2-Chloronapthalene	91-58-7	34581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	218-01-9	34320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenoxyacetic acid	94-75-7		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzo(a,h)anthracene	53-70-3	34556	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	95-50-1	34536	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	541-73-1	34566	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	106-46-7	34571	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	91-94-1	34631	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diethyl Phthalate	84-66-2	34336	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dimethyl Phthalate	131-11-3	34341	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-Butyl Phthalate	84-74-2	39110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene	121-14-2	34611	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Diphenylhydrazine	122-66-7	34346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	206-44-0	34376	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluorene	86-73-7	34381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobenzene	118-74-1	39700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobutadiene	87-68-3	34391	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorocyclohexane (HCH)-T	608-73-1		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorocyclopentadiene	77-47-4	34386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	67-72-1	34396	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	34403	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	78-59-1	34408	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	98-95-3	34447	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrosamines	Various		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrosodibutylamine	924-16-3		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrosodiethylamine	55-18-5		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodimethylamine	62-75-9	34438	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodi-n-Propylamine	621-64-7	34428	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodiphenylamine	86-30-6	34433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-Nitrosopyrrolidine	930-55-2		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonylphenol	84852-15-3		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorobenzene	608-93-5		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	129-00-0	34469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	120-82-1	34551	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PESTICIDES AND PCBS														
Aldrin	309-00-2	39330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-BHC	319-84-6	39337	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-BHC	319-85-7	39338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gamma-BHC	58-89-9	39340	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlordane	57-74-9	39350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorodiphenyldichloroethane (DDD)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorodiphenyldichloroethylene (DDE)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorodiphenyltrichloroethane (DDT)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT and derivatives	50-29-3	39300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	60-57-1	39380	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diazinon	333-41-5	39570	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-Endosulfan	959-98-8	34361	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-Endosulfan	33213-65-9	34356	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan sulfate	1031-7-8	34351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin	72-20-8	39390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Aldehyde	7421-93-4	34366	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	39410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor Epoixde	1024-57-3	39420	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs	336-36-3	39516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	8001-35-2	39400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX 2

TEXTOX MENU #3 - PERENNIAL STREAM OR RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
Table 2, 2018 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION	
Permittee Name:	Sunland Park-North Plant WWTP
TPDES Permit No.:	
Outfall No.:	1
Prepared by:	Quang Nguyen
Date:	Feb 6, 2024
DISCHARGE INFORMATION	
Receiving Waterbody:	Rio Grande
Segment No.:	2314
TSS (mg/L):	24
pH (Standard Units):	7.8
Hardness (mg/L as $CaCO_3$):	240
Chloride (mg/L):	110
Effluent Flow for Aquatic Life (MGD):	1
Critical Low Flow [7Q2] (cfs):	0
% Effluent for Chronic Aquatic Life (Mixing Zone):	100.00
% Effluent for Acute Aquatic Life (ZID):	100.00
Effluent Flow for Human Health (MGD):	1
Harmonic Mean Flow (cfs):	0.429
% Effluent for Human Health:	78.29
Human Health Criterion (select: PWS, FISH, or INC)	**PWS**

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

Stream/River Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*	*Source*	*Water Effect Ratio (WER)*	*Source*
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	47037.67	0.470		1.00	Assumed
Cadmium	6.60	-1.13	109739.08	0.275		1.00	Assumed
Chromium (total)	6.52	-0.93	172346.93	0.195		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	172346.93	0.195		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	99688.18	0.295		1.00	Assumed
Lead	6.45	-0.80	221733.34	0.158		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	80034.93	0.342		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	90862.03	0.314		1.00	Assumed
Zinc	6.10	-0.70	136098.12	0.234		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*FW Acute Criterion (µg/L)*	*FW Chronic Criterion (µg/L)*	*WLAa (µg/L)*	*WLAc (µg/L)*	*LTAa (µg/L)*	*LTAc (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Aldrin	3.0	N/A	3.00	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	724	319	415	246	361	765
Cadmium	20.1	0.452	73.0	1.64	41.8	1.26	1.86	3.93
Carbaryl	2.0	N/A	2.00	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.40	0.0040	1.38	0.0031	0.0045	0.0096
Chlorpyrifos	0.083	0.041	0.083	0.041	0.048	0.032	0.046	0.098
Chromium (trivalent)	1167	152	5994	780	3435	600	883	1867
Chromium (hexavalent)	15.7	10.6	15.7	10.6	9.0	8.2	12.0	25.4
Copper	32.4	20.0	109.9	67.9	63.0	52.3	76.8	163
Cyanide (free)	45.8	10.7	45.8	10.7	26.2	8.2	12.1	25.6
4,4'-DDT	1.1	0.001	1.10	0.0010	0.630	0.0008	0.0011	0.0024
Demeton	N/A	0.1	N/A	0.100	N/A	0.077	0.113	0.239
Diazinon	0.17	0.17	0.170	0.170	0.097	0.131	0.143	0.303
Dicofol [Kelthane]	59.3	19.8	59.3	19.8	34.0	15.2	22.4	47.4
Dieldrin	0.24	0.002	0.240	0.0020	0.138	0.0015	0.0023	0.0048
Diuron	210	70	210	70	120	54	79	168
Endosulfan I (*alpha*)	0.22	0.056	0.220	0.056	0.126	0.043	0.063	0.134
Endosulfan II (*beta*)	0.22	0.056	0.220	0.056	0.126	0.043	0.063	0.134
Endosulfan sulfate	0.22	0.056	0.220	0.056	0.126	0.043	0.063	0.134
Endrin	0.086	0.002	0.086	0.0020	0.049	0.0015	0.0023	0.0048
Guthion [Azinphos Methyl]	N/A	0.01	N/A	0.010	N/A	0.008	0.011	0.024
Heptachlor	0.52	0.004	0.52	0.0040	0.298	0.0031	0.0045	0.0096
Hexachlorocyclohexane (*gamma*) [Lindane]	1.126	0.08	1.13	0.080	0.645	0.062	0.091	0.192
Lead	165	6.43	1044	40.7	598	31.3	46.0	97
Malathion	N/A	0.01	N/A	0.010	N/A	0.008	0.011	0.024
Mercury	2.4	1.3	2.40	1.30	1.38	1.00	1.47	3.11
Methoxychlor	N/A	0.03	N/A	0.030	N/A	0.023	0.034	0.072
Mirex	N/A	0.001	N/A	0.0010	N/A	0.0008	0.0011	0.0024
Nickel	982	109.1	2868	319	1644	245	361	763
Nonylphenol	28	6.6	28.0	6.6	16.0	5.08	7.5	15.8
Parathion (ethyl)	0.065	0.013	0.065	0.013	0.037	0.010	0.015	0.031
Pentachlorophenol	19.5	15.0	19.5	15.0	11.2	11.5	16.4	34.7
Phenanthrene	30	30	30.0	30.0	17.2	23.1	25.3	53.5
Polychlorinated Biphenyls [PCBs]	2.0	0.014	2.00	0.014	1.15	0.011	0.016	0.034
Selenium	20	5	20.0	5.00	11.5	3.85	5.7	12.0
Silver	0.8	N/A	22.98	N/A	13.17	N/A	19.36	41.0
Toxaphene	0.78	0.0002	0.780	0.00020	0.447	0.00015	0.00023	0.00048
Tributyltin [TBT]	0.13	0.024	0.130	0.024	0.074	0.018	0.027	0.057
2,4,5 Trichlorophenol	136	64	136	64	77.9	49.3	72	153
Zinc	246	248	1050	1058	601	815	884	1871

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	*Water and Fish Criterion (µg/L)*	*Fish Only Criterion (µg/L)*	*Incidental Fish Criterion (µg/L)*	*WLAh (µg/L)*	*LTAh (µg/L)*	*Daily Avg. (µg/L)*	*Daily Max. (µg/L)*
Acrylonitrile	1.0	115	1150	1.28	1.19	1.75	3.69
Aldrin	1.146E-05	1.147E-05	1.147E-04	1.46E-05	1.36E-05	2.00E-05	4.23E-05
Anthracene	1109	1317	13170	1416	1317	1936	4097
Antimony	6	1071	10710	7.7	7.1	10.5	22.2
Arsenic	10	N/A	N/A	27.2	25.3	37.2	79
Barium	2000	N/A	N/A	2555	2376	3492	7389
Benzene	5	581	5810	6.4	5.9	8.7	18.5
Benzidine	0.0015	0.107	1.07	0.0019	0.0018	0.0026	0.0055
Benzo(*a*)anthracene	0.024	0.025	0.25	0.031	0.029	0.042	0.089
Benzo(*a*)pyrene	0.0025	0.0025	0.025	0.0032	0.0030	0.004	0.009
Bis(chloromethyl)ether	0.0024	0.2745	2.745	0.0031	0.0029	0.004	0.009
Bis(2-chloroethyl)ether	0.60	42.83	428.3	0.77	0.71	1.05	2.22
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	6	7.55	75.5	7.7	7.1	10.5	22.2
Bromodichloromethane [Dichlorobromomethane]	10.2	275	2750	13.0	12.1	17.8	38
Bromoform [Tribromomethane]	66.9	1060	10600	85	79	117	247
Cadmium	5	N/A	N/A	23.2	21.6	31.7	67
Carbon Tetrachloride	4.5	46	460	5.7	5.3	7.9	16.6
Chlordane	0.0025	0.0025	0.025	0.0032	0.0030	0.004	0.009
Chlorobenzene	100	2737	27370	128	119	175	369
Chlorodibromomethane [Dibromochloromethane]	7.5	183	1830	9.6	8.9	13.1	27.7
Chloroform [Trichloromethane]	70	7697	76970	89	83	122	259
Chromium (hexavalent)	62	502	5020	79	74	108	229
Chrysene	2.45	2.52	25.2	3.13	2.91	4.3	9.1
Cresols [Methylphenols]	1041	9301	93010	1330	1237	1818	3846
Cyanide (free)	200	N/A	N/A	255	238	349	739
4,4'-DDD	0.002	0.002	0.02	0.0026	0.0024	0.0035	0.0074
4,4'-DDE	0.00013	0.00013	0.0013	0.00017	0.00015	0.00023	0.0005
4,4'-DDT	0.0004	0.0004	0.004	0.0005	0.0005	0.0007	0.0015
2,4'-D	70	N/A	N/A	89	83	122	259
Danitol [Fenpropathrin]	262	473	4730	335	311	457	968
1,2-Dibromoethane [Ethylene Dibromide]	0.17	4.24	42.4	0.217	0.202	0.297	0.63
m-Dichlorobenzene [1,3-Dichlorobenzene]	322	595	5950	411	382	562	1190
o-Dichlorobenzene [1,2-Dichlorobenzene]	600	3299	32990	766	713	1048	2217
p-Dichlorobenzene [1,4-Dichlorobenzene]	75	N/A	N/A	96	89	131	277
3,3'-Dichlorobenzidine	0.79	2.24	22.4	1.01	0.94	1.38	2.92
1,2-Dichloroethane	5	364	3640	6.4	5.9	8.7	18.5
1,1-Dichloroethylene [1,1-Dichloroethene]	7	55114	551140	8.9	8.3	12.2	25.9
Dichloromethane [Methylene Chloride]	5	13333	133330	6.4	5.9	8.7	18.5
1,2-Dichloropropane	5	259	2590	6.4	5.9	8.7	18.5
1,3-Dichloropropene [1,3-Dichloropropylene]	2.8	119	1190	3.58	3.33	4.9	10.3
Dicofol [Kelthane]	0.30	0.30	3	0.38	0.356	0.52	1.11
Dieldrin	2.0E-05	2.0E-05	2.0E-04	2.55E-05	2.38E-05	3.49E-05	7.39E-05
2,4-Dimethylphenol	444	8436	84360	567	527	775	1640
Di-*n*-Butyl Phthalate	88.9	92.4	924	114	106	155	328
Dioxins/Furans [TCDD Equivalents]	7.80E-08	7.97E-08	7.97E-07	9.96E-08	9.27E-08	1.36E-07	2.88E-07
Endrin	0.02	0.02	0.2	0.026	0.024	0.035	0.074
Epichlorohydrin	53.5	2013	20130	68	64	93	198
Ethylbenzene	700	1867	18670	894	832	1222	2586
Ethylene Glycol	46744	1.68E+07	1.68E+08	59705	55525	81622	172684
Fluoride	4000	N/A	N/A	5109	4751	6985	14777
Heptachlor	8.0E-05	0.0001	0.001	0.00010	0.00010	0.00014	0.00030
Heptachlor Epoxide	0.00029	0.00029	0.0029	0.0004	0.0003	0.0005	0.0011
Hexachlorobenzene	0.00068	0.00068	0.0068	0.0009	0.0008	0.0012	0.0025
Hexachlorobutadiene	0.21	0.22	2.2	0.268	0.249	0.367	0.78
Hexachlorocyclohexane (*alpha*)	0.0078	0.0084	0.084	0.010	0.009	0.014	0.029
Hexachlorocyclohexane (*beta*)	0.15	0.26	2.6	0.192	0.178	0.262	0.55
Hexachlorocyclohexane (*gamma*) [Lindane]	0.2	0.341	3.41	0.255	0.238	0.349	0.74
Hexachlorocyclopentadiene	10.7	11.6	116	13.7	12.7	18.7	40
Hexachloroethane	1.84	2.33	23.3	2.35	2.19	3.21	6.8
Hexachlorophene	2.05	2.90	29	2.62	2.44	3.58	7.6
4,4'-Isopropylidenediphenol	1092	15982	159820	1395	1297	1907	4034
Lead	1.15	3.83	38.3	9.3	8.6	12.7	26.9
Mercury	0.0122	0.0122	0.122	0.016	0.014	0.021	0.045
Methoxychlor	2.92	3.0	30	3.7	3.47	5.1	10.8
Methyl Ethyl Ketone	13865	9.92E+05	9.92E+06	17709	16470	24210	51221
Methyl *tert*-butyl ether [MTBE]	15	10482	104820	19.2	17.8	26.2	55
Nickel	332	1140	11400	1239	1152	1693	3582
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	N/A	12773	11879	17462	36943
Nitrobenzene	45.7	1873	18730	58	54	80	169
N-Nitrosodiethylamine	0.0037	2.1	21	0.005	0.004	0.006	0.014
N-Nitroso-di-*n*-Butylamine	0.119	4.2	42	0.152	0.141	0.208	0.44
Pentachlorobenzene	0.348	0.355	3.55	0.44	0.41	0.61	1.29
Pentachlorophenol	0.22	0.29	2.9	0.281	0.261	0.38	0.81
Polychlorinated Biphenyls [PCBs]	6.4E-04	6.4E-04	6.40E-03	0.0008	0.0008	0.0011	0.0024
Pyridine	23	947	9470	29.4	27.3	40	85
Selenium	50	N/A	N/A	64	59	87	185
1,2,4,5-Tetrachlorobenzene	0.23	0.24	2.4	0.294	0.273	0.40	0.85
1,1,2,2-Tetrachloroethane	1.64	26.35	263.5	2.09	1.95	2.86	6.1
Tetrachloroethylene [Tetrachloroethylene]	5	280	2800	6.4	5.9	8.7	18.5
Thallium	0.12	0.23	2.3	0.153	0.143	0.210	0.44
Toluene	1000	N/A	N/A	1277	1188	1746	3694
Toxaphene	0.011	0.011	0.11	0.014	0.013	0.019	0.041
2,4,5-TP [Silvex]	50	369	3690	64	59	87	185
1,1,1-Trichloroethane	200	784354	7843540	255	238	349	739
1,1,2-Trichloroethane	5	166	1660	6.4	5.9	8.7	18.5
Trichloroethylene [Trichloroethene]	5	71.9	719	6.4	5.9	8.7	18.5
2,4,5-Trichlorophenol	1039	1867	18670	1327	1234	1814	3838
TTHM [Sum of Total Trihalomethanes]	80	N/A	N/A	102	95	140	296
Vinyl Chloride	0.23	16.5	165	0.294	0.273	0.402	0.850

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:			
Aquatic Life	***70% of Daily Avg.***	***85% of Daily Avg.***	
Parameter	***(µg/L)***	***(µg/L)***	*ug/L*
Aldrin	1.77	2.15	0.05
Aluminum	584	710	48
Arsenic	253	307	17.2
Cadmium	1.30	1.58	
Carbaryl	1.18	1.43	
Chlordane	0.0032	0.0038	
Chlorpyrifos	0.032	0.039	
Chromium (trivalent)	618	750	0.82
Chromium (hexavalent)	8.4	10.2	
Copper	53.8	65.3	4.66
Cyanide (free)	8.5	10.3	
4,4'-DDT	0.0008	0.0010	
Demeton	0.079	0.096	
Diazinon	0.100	0.122	
Dicofol [Kelthane]	15.7	19.0	
Dieldrin	0.0016	0.0019	
Diuron	55	67	
Endosulfan I (*alpha*)	0.044	0.054	
Endosulfan II (*beta*)	0.044	0.054	
Endosulfan sulfate	0.044	0.054	
Endrin	0.0016	0.0019	
Guthion [Azinphos Methyl]	0.008	0.010	
Heptachlor	0.0032	0.0038	
Hexachlorocyclohexane (*gamma*) [Lindane]	0.063	0.077	
Lead	32.2	39.1	
Malathion	0.008	0.010	
Mercury	1.03	1.25	
Methoxychlor	0.024	0.029	
Mirex	0.0008	0.0010	
Nickel	252	307	2.35
Nonylphenol	5.23	6.3	
Parathion (ethyl)	0.010	0.013	
Pentachlorophenol	11.5	14.0	
Phenanthrene	17.7	21.5	
Polychlorinated Biphenyls [PCBs]	0.011	0.013	
Selenium	3.96	4.81	4.85
Silver	13.55	16.46	
Toxaphene	0.00016	0.00019	
Tributyltin [TBT]	0.019	0.023	
2,4,5 Trichlorophenol	50.7	62	
Zinc	619	752	54.3

Human Health	*70% of Daily Avg.*	*85% of Daily Avg.*	
Parameter	***(µg/L)***	***(µg/L)***	
Acrylonitrile	1.22	1.48	
Aldrin	1.40E-05	1.70E-05	
Anthracene	1356	1646	
Antimony	7.3	8.9	
Arsenic	26.0	31.6	17.2
Barium	2445	2968	24.6
Benzene	6.1	7.4	
Benzidine	0.0018	0.0022	
Benzo(*a*)anthracene	0.029	0.036	
Benzo(*a*)pyrene	0.0031	0.0037	
Bis(chloromethyl)ether	0.0029	0.0036	
Bis(2-chloroethyl)ether	0.73	0.89	
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	7.3	8.9	3.65
Bromodichloromethane [Dichlorobromomethane]	12.5	15.1	
Bromoform [Tribromomethane]	82	99	
Cadmium	22.2	27.0	
Carbon Tetrachloride	5.5	6.7	
Chlordane	0.0031	0.0037	
Chlorobenzene	122	148	
Chlorodibromomethane [Dibromochloromethane]	9.2	11.1	
Chloroform [Trichloromethane]	86	104	
Chromium (hexavalent)	76	92	
Chrysene	2.99	3.64	
Cresols [Methylphenols]	1272	1545	
Cyanide (free)	244	297	
4,4'-DDD	0.0024	0.0030	
4,4'-DDE	0.00016	0.00019	
4,4'-DDT	0.0005	0.0006	
2,4'-D	86	104	
Danitol [Fenpropathrin]	320	389	
1,2-Dibromoethane [Ethylene Dibromide]	0.208	0.252	
m-Dichlorobenzene [1,3-Dichlorobenzene]	394	478	
o-Dichlorobenzene [1,2-Dichlorobenzene]	733	891	
p-Dichlorobenzene [1,4-Dichlorobenzene]	92	111	
3,3'-Dichlorobenzidine	0.97	1.17	
1,2-Dichloroethane	6.1	7.4	
1,1-Dichloroethylene [1,1-Dichloroethene]	8.6	10.4	
Dichloromethane [Methylene Chloride]	6.1	7.4	
1,2-Dichloropropane	6.1	7.4	
1,3-Dichloropropene [1,3-Dichloropropylene]	3.42	4.2	
Dicofol [Kelthane]	0.367	0.45	
Dieldrin	2.44E-05	2.97E-05	
2,4-Dimethylphenol	543	659	
Di-*n*-Butyl Phthalate	109	132	
Dioxins/Furans [TCDD Equivalents]	9.53E-08	1.16E-07	
Endrin	0.024	0.030	
Epichlorohydrin	65	79	
Ethylbenzene	856	1039	
Ethylene Glycol	57136	69379	
Fluoride	4889	5937	
Heptachlor	0.00010	0.00012	
Heptachlor Epoxide	0.00035	0.00043	
Hexachlorobenzene	0.0008	0.0010	
Hexachlorobutadiene	0.257	0.312	
Hexachlorocyclohexane (*alpha*)	0.010	0.012	
Hexachlorocyclohexane (*beta*)	0.183	0.223	
Hexachlorocyclohexane (*gamma*) [Lindane]	0.244	0.297	
Hexachlorocyclopentadiene	13.1	15.9	
Hexachloroethane	2.25	2.73	
Hexachlorophene	2.51	3.04	
4,4'-Isopropylidenediphenol	1335	1621	
Lead	8.9	10.8	
Mercury	0.015	0.018	
Methoxychlor	3.57	4.3	
Methyl Ethyl Ketone	16947	20579	
Methyl *tert*-butyl ether [MTBE]	18.3	22.3	
Nickel	1185	1439	2.35
Nitrate-Nitrogen (as Total Nitrogen)	12223	14842	15.2
Nitrobenzene	56	68	
N-Nitrosodiethylamine	0.005	0.005	
N-Nitroso-di-*n*-Butylamine	0.145	0.177	
Pentachlorobenzene	0.43	0.52	
Pentachlorophenol	0.269	0.327	
Polychlorinated Biphenyls [PCBs]	0.0008	0.0009	
Pyridine	28.1	34.1	
Selenium	61	74	4.85
1,2,4,5-Tetrachlorobenzene	0.281	0.341	
1,1,2,2-Tetrachloroethane	2.00	2.43	
Tetrachloroethylene [Tetrachloroethylene]	6.1	7.4	
Thallium	0.147	0.178	
Toluene	1222	1484	
Toxaphene	0.013	0.016	
2,4,5-TP [Silvex]	61	74	
1,1,1-Trichloroethane	244	297	
1,1,2-Trichloroethane	6.1	7.4	
Trichloroethylene [Trichloroethene]	6.1	7.4	
2,4,5-Trichlorophenol	1270	1542	
TTHM [Sum of Total Trihalomethanes]	98	119	
Vinyl Chloride	0.281	0.341	

APPENDIX 3

Facility Name	Camino Real North WWTP							
NPDES Permit Number	NM0031178					Outfall Number	001	
Proposed Critical Dilution*	100							
			*Critical Dilution in draft permit, do not use % sign.					
			Enter data in yellow shaded cells only. Fifty percent should be entered as 50, not 50%.					
Test Data								
		VERTEBRATE				INVERTEBRATE		
Date (mm/yyyy)	Lethal NOEC	Sublethal NOEC	Lethal TU	Sublethal TU	Lethal NOEC	Sublethal NOEC	Lethal TU	Sublethal TU
12/31/20	100	100	1.00	1.00	100	100	1.00	1.00
3/31/21	56	32	1.79	3.13	56	42	1.79	2.38
6/30/21	42	32	2.38	3.13	75	56	1.33	1.79
9/30/21	75	32	1.33	3.13	100	42	1.00	2.38
12/31/21	75	75	1.33	1.33	56	32	1.79	3.13
3/31/22	42	42	2.38	2.38	42	42	2.38	2.38
6/30/22	42	42	2.38	2.38	75	56	1.33	1.79
9/30/22	56	56	1.79	1.79	56	42	1.79	2.38
12/31/22	100	100	1.00	1.00	100	100	1.00	1.00
3/31/23	56	32	1.79	3.13	75	75	1.33	1.33
6/30/23	42	32	2.38	3.13	75	56	1.33	1.79
9/30/23	42	42	2.38	2.38	56	42	1.79	2.38
	42	32	2.38	3.13	42	32	2.38	3.13
Count			12	12			12	12
Mean			1.827	2.324			1.488	1.977
Std. Dev.			0.556	0.853			0.422	0.644
CV			0.3	0.4			0.3	0.3
RPMF			1.3	1.4			1.3	1.3
		1	Reasonable Potential Acceptance Criteria					
Vertebrate Lethal		3.095	Reasonable Potential exists, Permit requires WET monitoring and WET limit.					
Vertebrate Sublethal		4.375	Reasonable Potential exists, Permit requires WET monitoring and WET limit.					
Invertebrate Lethal		3.095	Reasonable Potential exists, Permit requires WET monitoring and WET limit.					
Invertebrate Sublethal		4.0625	Reasonable Potential exists, Permit requires WET monitoring and WET limit.					