NPDES PERMIT NO. NM0022101 FACT SHEET

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

APPLICANT

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DATE PREPARED

January 6, 2023

PERMIT ACTION

Proposed reissuance of the current NPDES permit issued September 27, 2017, with an effective date of November 1, 2017, and an expiration date of October 31, 2022.

RECEIVING WATER – BASIN

Rio Hondo – Rio Grande Basin

DOCUMENT ABBREVIATIONS

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

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

In this document, references to State WQS and/or rules shall collectively mean either or both the State of New Mexico and/or the Pueblo of Taos.

I. CHANGES FROM THE PREVIOUS PERMIT

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

- Added e-reporting requirements implementing the e-Reporting Rule.
- Included reporting requirement for the influent concentration of BOD_5 and TSS.

II. APPLICATION LOCATION and ACTIVITY

As described in the application, the WWTP is located at 38 Ocean Blvd., village of Taos Ski Valley in Taos County, New Mexico. The effluent from the treatment plant is discharged into the Rio Hondo. The discharge is located on that water at latitude 36° 35' 46" N and longitude 105° 27' 38" W in Taos County, New Mexico.

Under the SIC Code 4952, the discharge is from a POTW with a design capacity that has been recently increased from 0.167 MGD to 0.3 MGD serving a population of 1,025 people (that fluctuates from 500 to 5,000 depending on the season of the year).

Wastewater in the collection system flows by gravity to the headworks of the WWTP where an influent Parshall flume and staff gauge are in place. A grit removal system with a screw pump and bagging system is online. The grit removed is taken to the Taos County landfill after passing the paint filter test. Flow from the headworks then proceeds to the flow equalization basins.

Two in-ground flow equalization basins are used to control and equalize the flow volume of the treatment units. A substantial freeboard is maintained in the tanks to ensure that they can adequately handle any excess infiltration and inflow during summer months. Diffused aeration helps alleviate the growth of filamentous bacteria in the equalization basins.

Solids from the Anoxic selector, backwash from the pressure filters and liquids from the sludge dewatering process are returned to the equalization basins. After flow equalization, wastewater enters the main treatment building. Influent flow is controlled by a “pinch” valve which can maintain a constant influent flow to the aeration basins.

The facility has four 25,000 gallons aeration basins operated in series. From the aeration basins, wastewater then passes through a splitter box into one of two secondary circulars, conal bio-clarifiers operated in parallel, where settling of activated sludge takes place. Return activated sludge is directed to the first aeration basin.

Under normal operating conditions, a three to four feet sludge level is maintained in this unit. Floating materials are moved into a scum pit using a scum sweep arm. Contents of the scum pit are pumped to the sludge storage tanks. Wastewater from the bio-clarifiers is pumped to two pressure filters which run in series. Back flushed water is sent back to the flow equalization basins to be run through the plant again for additional treatment. After the filters, water passes through a series of two ultraviolet disinfection units and is then discharged to the Rio Hondo. Final disposal of the sludge is at the Taos County Land fill.

III. **RECEIVING STREAM STANDARDS**

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC, effective July 24, 2020). The facility discharges into the Rio Hondo in Waterbody Segment No. 20.6.4.129 of the Rio Grande Basin. The designated uses of this receiving water are domestic water supply, high quality cold-water aquatic life, irrigation, livestock watering, wildlife habitat and primary contact.

The Rio Hondo flows into the Rio Grande in Waterbody Segment No. 20.6.4.129 of the Rio Grande Basin, which is bordered to the east by the Pueblo of Taos. The Tribe is approximately 17.28 miles downstream of the discharge point and has WQS approved by EPA on June 19, 2006 (effective March 8, 2019). The Pueblo of Taos WQS establish designed uses of the Rio Grande as wildlife habitat, cold-water fishery, irrigation, livestock & wildlife watering, aquatic life (acute and chronic criteria) and primary human contact/ceremonial use.

IV. **EFFLUENT CHARACTERISTICS**

A quantitative description of the discharge(s) was included in the EPA Permit Application Form 2A received September 20, 2022, as shown in the following table:

Parameter	Maximum	Average
	(mg/L unless noted)	
Flow, million gallons/day (MGD)	0.08512	0.03948
Temperature, winter	16.1 °C	14.7 °C
Temperature, summer	16.5 °C	15.0 °C
pH, minimum, standard units (su)	7.15	NA
pH, maximum, standard units (su)	7.69	NA
Biochemical Oxygen Demand, 5-day (BOD_5)	7.5	3.02
E. coli (#bacteria/100 mL)	NA	NA
Total Suspended Solids (TSS)	1.36	0.4
Fecal Coliform (cfu /100mL)	1.0	1.0
Ammonia (as N)	12.0	0.76
Dissolved Oxygen (DO)	NA	NA
Total Kjeldahl Nitrogen (TKN)	14.0	1.16
Nitrate plus Nitrite Nitrogen	15.5	3.49
Phosphorus	1.5	0.34

A summary of the last 5-year pollutant data taken from NM0022101 DMRs shows several effluent limit violations from September 2017 to October 2022. In addition, the State inspected the WWTP on November 2, 2016. The inspection report containing findings if any is no longer available on the NMED website.

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

Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States.

In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR § 122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and § 136 (analytical procedures).

Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The existing NPDES permit was issued September 27, 2017, with an effective date of November 1, 2017, and an expiration date of October 31, 2022, is administratively continued until this permit is reissued.

VI. **DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS**

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

Regulations contained in 40 CFR §122.44 require that NPDES permit limits are developed that meet the more stringent of either technology-based ELGs, numerical and/or narrative water quality standard-based effluent limits, or the previous permit. Technology-based effluent limitations are established in the proposed draft permit for TSS and BOD_5. Water quality-based effluent limitations are established in the proposed draft permit for ammonia-nitrogen, fecal coliform bacteria, *E. coli* bacteria, total nitrogen, total phosphorus, TRC and 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 based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

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

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

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

The facility is a POTW. POTWs have technology based ELGs established at 40 CFR 133, Secondary Treatment Regulation. Pollutants with ELGs established in this Chapter are BOD, TSS and pH. BOD_5 limits of 30 mg/L for the 30-day average and 45 mg/L for the 7-day average are found at 40 CFR §133.102 (a). TSS limits; also 30 mg/L for the 30-day average and 45 mg/L for the 7-day average, are found at 40 CFR §133.102(b). ELGs for pH are between 6-9 su and are found at 40 CFR §133.102 (c).

Per the facility's request, the earlier permits relied on the previous design capacity of 0.095 MGD to determine loading limitations instead of seeking review under New Mexico's anti-degradation policy. The current proposed permit continues to utilize the 0.095 MGD design capacity for these calculations.

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 POTWs or WWTPs, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/L * 8.345 lbs/gal * design flow in MGD
30-day average BOD_5/TSS loading = 30 mg/L * 8.345 lbs/gal * 0.095 MGD = 23.8 lbs/day
7-day average BOD_5/TSS loading = 45 mg/L * 8.345 lbs/gal * 0.095 MGD = 35.7 lbs/day

Technology-Based Effluent Limits – 0.095 MGD design flow

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (NA- Not applicable)			
	lbs/day		mg/L (unless noted)	
Parameter	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD_5	23.8	35.7	30	45
TSS	23.8	35.7	30	45
pH	NA	NA	6.0 - 9.0 su	

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 following the State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained or attained.

2. Implementation

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 and Tribal Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC effective July 24, 2020). The facility discharges into the Rio Hondo thence to the Rio Grande in Waterbody Segment No. 20.6.4.129. The designated uses of this receiving water are domestic water supply, high quality cold-water aquatic life, irrigation, wildlife habitat, livestock watering and primary contact.

The Rio Hondo flows into the Rio Grande in Waterbody Segment No. 20.6.4.122 of the Rio Grande Basin, which is bordered to the east by the Pueblo of Taos. The Tribe is approximately 17.28 miles downstream of the discharge point and has WQS approved by EPA on June 19, 2006 (effective March 8, 2019). The Pueblo of Taos WQS establishes designed uses of the Rio Grande as wildlife habitat, cold-water fishery, irrigation, livestock & wildlife watering, aquatic life (acute and chronic criteria), and primary human contact/ceremonial use.

In this document, references to State WQS and/or rules shall mean collectively either or both the Pueblo of Taos and/or the state of New Mexico. Where different standards apply for a particular pollutant, the most stringent standard has been used to develop effluent limitations to protect for all applicable designated uses.

4. Permit Action – Water Quality-Based Limits

Regulations promulgated at 40 CFR 122.44(d) require limits in addition to, or more stringent than ELGs (technology based). State WQS that are more stringent than ELGs are as follows:

a. pH

The state of New Mexico WQS criteria applicable to the high-quality cold-water aquatic life designated use and Pueblo of Taos WQS criteria for the cold-water fishery designated use to require pH to be between 6.6 and 8.8 su. This is more limiting than the technology-based limits presented earlier. The draft permit shall continue to establish 6.6 to 8.8 s.u. for pH.

b. Bacteria

Pueblo of Tao's numeric criteria for the ceremonial use – primary human contact designated use requires a monthly geometric mean for FCB of 200 cfu/100 mL and a single sample of 400 cfu/100 mL. Therefore, the draft permit will propose FCB limits of 200 cfu/100 mL monthly geometric average and a 400 cfu/100 mL single maximum. Also, the NMWQS criteria require E. coli of 126 cfu/100 mL monthly geometric mean and a single sample of 410 cfu/100 mL, end-of-pipe to protect the primary contact designated use. Pueblo of Tao's numeric criteria for the ceremonial use – primary human contact designated use requires a monthly geometric mean for E. coli of 126 cfu/100 mL and a single sample of 235 cfu/100 mL. The draft permit will propose E. coli bacteria limits of 126 cfu/100 mL monthly geometric average and a 235 cfu/100 mL single maximum.

c. Toxics

(i) General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the 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 must fill out appropriate sections of Form 2A to apply for an NPDES permit or re-issuance of an NPDES permit. The new form applies not only to POTWs but also to facilities like POTWs, 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 the final rule's publication on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL. The facility is designated as a major.

During the initial development of the current permit, expanded testing including the pollutants listed in section D of Form 2A were not found at concentrations that exceeded RP. Also, the treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). No changes are anticipated in the presence or concentration of these pollutants in the facility's discharge. Therefore, re-testing of these pollutants was not necessary during the renewal of the current permit. Ammonia-nitrogen and TRC are toxics that have been identified in previous permits to be limited and are discussed below.

(ii) Critical Conditions

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. Both states establish a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years. The SWQB of the NMED provided EPA with the 4Q3 [5.77 cfs - 0.4642 cfs (0.3 MGD plant design flow) = 5.306 cfs] for the Taos Ski Valley.

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 flow (0.3 MGD)
Qa = critical low flow of the receiving waters (3.4294 MGD [= 5.306 cfs])
F = fraction of stream allowed for mixing (1.0)

$CD = 0.3 \text{ MGD}/ [(1.0) (3.4294) + 0.3] = 0.0804 = 8.04\%$

According to the NMIP, if it is determined that a facility is to receive chronic biomonitoring requirements at a critical dilution of 10% or less, then an acute to chronic ratio of 10:1 may be used to allow acute biomonitoring in lieu of chronic.

Acute critical dilution = 8.04% * 10 = 80%

(iii) TRC

The facility used ultraviolet disinfection units for bacterial disinfection under the previous permit, which had limits for TRC of 19 µg/L when chlorine was used. For TRC, State WQS establish acute end-of-pipe criteria of 19 µg/L and chronic in-stream criteria of 11 µg/L. Under the cold-water fishery designated use, Pueblo of Taos criteria for TRC is 3 µg/L. At a critical dilution of 8.04%, the acute end-of-pipe criteria of 19 µg/L is the most stringent limitation. The draft permit will maintain the TRC limit of 19 µg/L when chlorine is used. See TRC discussion in NMIP on page 40 under test types.

(iv) Ammonia-Nitrogen

In the current permit, the 30-day average and 7-day average ammonia-nitrogen concentration limitation of 3.2 mg/L was calculated for the discharge based on acute aquatic life criteria. A final loading effluent limitation of 5.34 lbs/day was established based on this concentration limit. The draft permit maintains these limitations for ammonia-nitrogen. The proposed permit includes a 7-day average mass limit of 5.34 lbs/day.

5. TMDL Requirements

NMED finalized a TMDL for the Rio Hondo (South Fork of Rio Hondo to Lake Fork Creek) on June 14, 2005, which addressed total phosphorus and total nitrogen. Federal regulations found at 40 CFR 122.44(d)(1)(vii)(B) require permits to contain limitations necessary to meet the conditions of a waste load allocation established by a TMDL. The current permit included limitations for total phosphorus and total nitrogen.

The current permit maintained seasonal 30-day average mass limits based on the Water Quality Management Plan for the Rio Grande. As previously discussed, the permittee requested that the 0.095 MGD design flow be used to calculate mass loading limitations in the current permit. Therefore, increased phosphorus loading which could have been allowed under the TMDL was not included in the current permit. The seasonal mass limits of the current permit will be brought forward to the proposed permit. The 0.095 MGD design flow has been used to calculate 7-day average mass limits which have been included in the proposed permit. The seasonal concentration limitations for total phosphorus established in the current permit were consistent with the TMDL and will continue to be utilized in the proposed permit.

Five phases of seasonal mass and concentration limitations for total nitrogen were established in the current permit in accordance with the TMDL. Each phase created seasonal total nitrogen limits based on the number of septic systems captured by the permittee and utilized a two to one non-point source/point source trading ratio. According to the applicant, enough septic systems have been captured by permittee to allow for the use of Phase IV total nitrogen limits established by the current permit. However, the proposed permit will continue to utilize the Phase III seasonal total nitrogen limits established by the current permit. This is because effluent data reported by the permittee on DMRs for the previous year shows the loading and concentrations for total nitrogen are below the Phase III levels as required in the current permit.

While the permittee is requesting an increase in the loading of pounds per day in the renewed permit, the monitoring data does not show a present need for this increase in the allowable load. The proposed permit includes 7-day average mass limits which have been calculated using the 0.095 MGD design flow. The following seasonal limitations for total phosphorus and total nitrogen are proposed in the draft permit:

EFFLUENT CHARCTERISTICS		**DISCHARGE LIMITATIONS**			
Parameter	Time Interval	30 DAY AVG lbs/day	7 DAY AVG lbs/day	30 DAY AVG mg/L	7 DAY AVG mg/L
Total Phosphorus	November through April	0.8	1.2	0.5	0.75
	May and June	1.6	2.4	1.0	1.5
	July and August	1.2	1.8	1.5	2.25
	September and October	0.8	1.2	2.5	3.75

Total Nitrogen	November through April	13.7	20.5	8.2	12.3
	May and June	46.6	68.8	27.9	41.2
	July and August	27.7	41.6	16.6	24.9
	September and October	21.1	31.7	12.7	19

6. 303(d) List Impacts

The Rio Hondo, from South Fork Rio Hondo to Lake Fork Creek, is listed on the "2022-2024 State of New Mexico Integrated Clean Water Act Section 303(d) / 305(b) Report." The waterbody is classified as Category 1, which means attaining the water quality standards for all designated and existing uses. The standard reopener language in the permit allows additional permit conditions if warranted by new or revised TMDLs.

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). Technology based pollutants; BOD_5 and TSS, are proposed to be monitored twice per month November through April, and once per month May through October consistent with the previous permit. Sample type for BOD_5 and TSS is a 24-hr composite sample. Flow shall be sampled continuously (daily) by totalizing meter consistent with the previous permit. The technology-based monitoring frequencies are consistent with the NMIP.

Water quality-based pollutant monitoring frequency for FCB and *E. coli* shall be sampled twice a month using grab samples, which is consistent with the NMIP. TRC and pH shall be measured five times per week by instantaneous grab (field measurement), which is consistent with the NMIP. Regulations at 40 CFR Part 136 define instantaneous grab as being analyzed within 15-minutes of collection. Total phosphorus and ammonia-nitrogen shall be sampled twice per month November through April, and once per month May through October by 24-hour composite consistent with the previous permit. Total nitrogen shall be measured once a week November through April and once per month May through October by 24-hour composite consistent with the previous permit.

E. WHOLE EFFLUENT TOXICITY REQUIREMENTS

In Section VI.C.4.c. ii. (b) above; "Critical Conditions", it was shown that the critical dilution, CD, for the facility is 80% (actual CD = 8.04%), because the discharge is to a perennial. Based on the nature of the discharge; POTW, the design flow; more than 0.1 MGD but less than 1.0 MGD, the nature of the receiving water; perennial, and the critical dilution; 8.04%, the NMIP directs the WET test to be a 48-hour acute test using *Daphnia pulex* and *Pimephales promelas* at an once year frequency consistent with the NMIP. Based on the WET Recommendation shown in Appendix A, no WET limits will be established in the proposed permit.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 25%, 34%, 45%, 60%, and 80%. The low-flow effluent concentration (critical low-flow dilution) is defined as 80% effluent.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to the Rio Hondo of the treatment system aeration basin.

The aeration basin receives process area wastewater, process area stormwater, and treated sanitary wastewater. Discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING	
Whole Effluent Toxicity Testing (48 Hr. Static Renewal)[1]		
	30-DAY AVG MINIMUM	48-Hr. MINIMUM
Daphnia pulex	REPORT	REPORT
Pimephales promelas	REPORT	REPORT

EFFLUENT CHARACTERISTIC	MONITORING REQUIREMENTS	
Whole Effluent Toxicity Testing (48 Hr. Static Renewal)[1]		
	FREQUENCY	TYPE
Daphnia pulex	1/year	24-Hr.
Pimephales promelas	1/year	24-Hr.

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

VII. **FACILITY OPERATIONAL PRACTICES**

A. SEWAGE SLUDGE PRACTICES

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 at a later date 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 whether or not 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 CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been required. 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 Section307(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. The monitoring results will be available to the public.

IX. **ANTIDEGRADATION**

Per the facility's request, the earlier permits relied on the previous design capacity of 0.095 MGD to determine loading limitations instead of seeking review under New Mexico's anti-degradation policy. The current proposed permit continues to utilize the 0.095 MGD design capacity for these calculations. The State of New Mexico and the Pueblo of Taos both have anti-degradation 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 State 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. A review of the anti-degradation requirements will be required if there is an increase in the plant design capacity and treatment process.

X. **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 effluent limitations of the previous permit for ammonia-nitrogen, total nitrogen, total phosphorus, TRC, BOD_5, TSS, pH, TRC, FCB, and *E. coli*. Effluent permit limits are consistent with the State WQS and WQMP.

XI. **ENDANGERED SPECIES CONSIDERATIONS**

According to the most recent county listing available at US Fish and Wildlife Service (USFWS) on January 6, 2023 at https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=35055, seven species in Taos County are listed as endangered (E) or threatened (T):

- One specie is an insect and includes the Silver-spot (Speyeria nokomis nokomis) (T).
- Three species are birds and include the Mexican spotted owl (*Strix occidentalis lucida*) (T), the Yellow-billed Cuckoo (Coccyzus americanus) (T) and the Southwestern willow flycatcher (*Empidonax traillii extimus*) (E).
- Three species are mammalian include the New Mexico meadow jumping mouse (Zapus hudsonius luteus) (E), the Canada Lynx (Lynx Canadensis) (T) and the black-footed ferret *Mustela nigripes* (E).
- The American bald eagle (*Haliaeetus leucocephalus*) was previously listed in Taos County. However, the USFWS, removed the American bald eagle in the lower 48 states from the Federal List of Endangered and Threatened Wildlife Federal Register, July 9, 2007, (Volume 72, Number 130).

In accordance with requirements under section 7(a)(2) of the Endangered Species Act (ESA), EPA has reviewed this permit for its effect on the following listed threatened and endangered species and their designated critical habitats:

Silver-spot subspecies has been documented in ten populations across southwestern Colorado, eastern Utah, and northern New Mexico, ranging in elevation from 5,200 to 8,300 feet. A relatively large butterfly with up to a 3-inch wingspan, silver-spot butterflies are known for distinctive

silvery-white spots on the underside of their wings. On their upper side, females have a cream or light-yellow coloring with brown or black, and males have a bright orange upper side.

The silver-spot requires moist, open meadows with vegetation for shelter. Herbaceous plants are also important for nectar sources, which provide energy to adults for mating and flying. This butterfly has an annual life cycle and lays eggs on, or immediately next to, the bog violet (Viola nephrophylla/V. sororia var. Affinis) that the larvae feed on exclusively. The eggs hatch approximately two weeks after being laid in September and the larvae immediately drink water before going dormant until May. When the bog violets flower in May, the larvae begin feeding on them exclusively into July. They then form a chrysalis and metamorphize into adult butterflies, living for about 45 days to lay their eggs in September.

Under the ESA, the U.S. Fish and Wildlife Service completed a peer-reviewed Species Status Assessment (SSA). As summarized in the SSA report, climatic conditions are expected to change across the range of the silver-spot butterfly over the next 30 years, such that the viability of the subspecies may decrease in the future. Primary threats facing the silver-spot butterfly include habitat loss and fragmentation, climate change, incompatible livestock grazing, human alteration of natural hydrology, and genetic isolation.

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

These mice are naturally rare and scattered across isolated population centers, and no wonder; riparian areas make up less than 1 percent of the landmass in the Southwest. But these precious arteries of life are in decline, and the jumping mouse along with them.

The mouse has been extirpated from 70 to 80 percent of its historic range, which extended from the San Juan Mountains in southwestern Colorado into the Rio Grande Valley in New Mexico and the White Mountains in Arizona. These days, they are found only in 5 isolated mountain ranges in Colorado, New Mexico, and Arizona, and in the Rio Grande Valley.

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

Mexican spotted owl(s) nest, forage, roost and disperse in a wide variety of biotic communities:

- Mixed-conifer forests are commonly used throughout the range and may include Douglas fir, white fir, southwestern white pine, limber pine, and ponderosa pine. Understory may include Gambel oak, maples, box elder, and/or New Mexico locust.

Highest densities of Mexican spotted owls occur in mixed-conifer forests that have experienced minimal human disturbance.

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

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

Nesting habitat is typically in areas with complex forest structure or rocky canyons and contains mature or old growth stands which are uneven-aged, multistoried, and have high canopy closure. In the northern portion of the range (southern Utah and Colorado), most nests are in caves or on cliff ledges in steep-walled canyons. Elsewhere, most nests are in Douglas-fir trees (*Pseudotsuga menziesii*). The patterns of habitat use by foraging owls are not well known, but Mexican spotted owls generally forage in a broader array of habitats than they use for roosting, and most commonly in Douglas fir. Ganey and Balda (1994) found that, in northern Arizona, owls generally foraged slightly more than expected in unlogged forests, and less so in selectively logged forests. However, patterns of habitat use varied between study areas and between individual birds, generalizing difficult.

Canada Lynx is generally found in moist, boreal forests that have cold, snowy winters and a high density of their favorite prey: the snowshoe hare. Snowshoe hares tend to occur in habitats where dense stands of young conifers provide shelter, and where they can forage on conifer boughs that protrude above several feet of snow.

These forest thickets may result from wildfires, timber harvest, or other disturbances. Meanwhile, lynx also use mature forests with dense undercover and downed wood for denning. Lynx can be found throughout much of the boreal forest of Alaska and Canada. The southern portion of their range has historically extended into the U.S. into the northern Rocky Mountains/Cascades, southern Rockies, Great Lakes states and the Northeast. Today, in the Lower-48 states they are known to have sustained breeding populations in Montana, Washington, Maine, and Minnesota and have been reintroduced to Colorado. They also occur and sometimes breed in Idaho, Oregon, Wyoming, Utah, New Mexico, New Hampshire, Vermont, New York, Michigan, and Wisconsin, but their population status is not well known in these areas.

Yellow-billed Cuckoos use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the Midwest, look for cuckoos in shrub-lands of mixed willow and dogwood, and in dense stands of small trees such as American elm.
In the central and eastern U.S., Yellow-billed Cuckoos nest in oaks, beech, hawthorn, and ash. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites.

Southwestern Willow Flycatchers habitat occurs in riparian areas along streams, rivers, and other wetlands where dense willow, cottonwood, buttonbush and arrowed are present. The primary reason for decline is the reduction, degradation, and elimination of the riparian habitat. Other reasons include brood parasitism by the brown-headed cowbird and stochastic events like fire and floods that destroy fragmented populations. The permit does not authorize activities that may cause destruction of the flycatcher habitat, and issuance of the permit will have no effect on this species.

The **black-footed ferret** research finds that the species has diminished due to the eradication of prairie dogs, the primary source of the ferret's habitat and food.

Main causes of the decline in the ferret population included habitat conversion for farming; efforts to eliminate prairie dogs, which competed with livestock for available prairie forage; and sylvatic plague, a disease that wiped out large numbers of prairie dogs and has also killed ferrets. Reintroduced black-footed ferrets have been designated as "non-essential experimental" populations under the Endangered Species Act.

This designation allows, Federal, State, and Tribal resource managers, and private citizens more flexibility in managing new populations. The "non-essential, experimental" designation does not limit land uses such as forest management, agricultural practices, sport hunting, and non-consumptive outdoors recreation. The NPDES program regulates discharge of pollutants and does not regulate forest management practices and agricultural practices. Issuance of this permit will have no effect on the Black-footed Ferret food source or habitat.

After review, EPA has determined that the reissuance of this permit will have "*no effect*" on listed threatened and endangered species nor will adversely modify their designated critical habitat. The NPDES program regulates the discharge of pollutants and does not regulate forest and agricultural management practices.

XII. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since construction activities are not planned in the reissuance.

XIII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of either States WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the State's Water Quality Standards are either revised or promulgated. Should either State 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.

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

XV. CERTIFICATION

The permit is in the process of certification by the State of New Mexico 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.

XVI. FINAL DETERMINATION

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

XVII. **ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

A. APPLICATION(s): EPA Application Form 2A received September 20, 2022.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of January 5, 2023, Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

New Mexico Water Quality Standards: New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as approved by EPA on July 24, 2020.

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

Statewide Water Quality Management Plan approved by EPA on October 23, 2020.

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

Pueblo of Taos Water Quality Standards (effective March 8, 2019).

D. MISCELLANEOUS

Renewal application sent to NMED via email dated November 9, 2022.

Telephoned NMED regarding TMDL on November 9, 2022, and received an email dated November 10, 2022, from NMED TMDL Section providing information regarding existing TMDL.

Received an email dated November 11, 2022, from Jason Martinez with NMED stating that the TSV WWTP has been at the Phase III Nutrient limits in the TMDL for Rio Hondo (South Fork to Lake Fork Creek, 2005).

Received am email from Jason Martinez with NMED dated January 6, 2023, providing 4Q3 data.

Provided on January 9, 2023, to Jason Martinez with NMED the draft permit NPDES permit for their review and initial comments before PN. NMED comments received on January 23, 2023.