

NPDES PERMIT NO. NM0031097

FACT SHEET

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

APPLICANT:

Mora Independent School District Athletic Field Project
PO Box 179
Mora, NM 87732

ISSUING OFFICE:

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

PREPARED BY:

Aron K. Korir
Physical Scientist
NPDES Permits Branch (6WD-PE)
Water Division
Phone: 214-665-6522
FAX: 214-665-2191
Email: Korir.aron@epa.gov

DATE PREPARED:

March 17, 2023

PERMIT ACTION

Proposed reissuance of the current NPDES permit issued June 11, 2018, with an effective date of July 1, 2018, and an expiration date of June 30, 2023.

RECEIVING WATER – BASIN

Mora River – Canadian River Basin

DOCUMENT ABBREVIATIONS

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

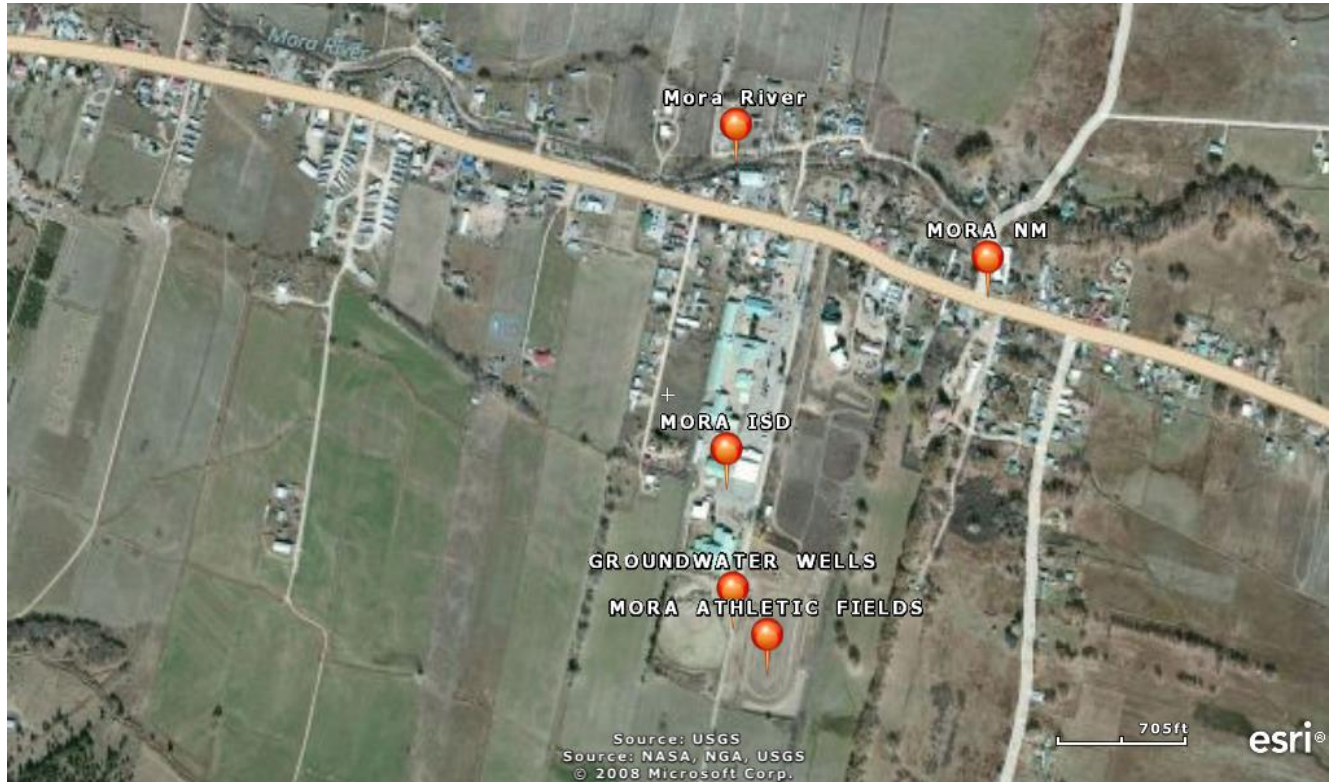
4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
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
mg/l	Milligrams per liter
ug/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
SQL	Minimum quantification level
O&G	Oil and grease
POTW	Publically owned treatment works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. CHANGES FROM THE PREVIOUS PERMIT

- Low flow 4Q3 has been changed from 1.47 MGD to 1.14MGD.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the Mora Independent School District (MISD) facility is located at Highway 518 and Ranger Drive, Mora, Mora County, New Mexico. Under the Standard Industrial Classification Code 8211, the facility is a high school.



The Mora High School is located on the floor of a mountain valley adjacent to the Mora River containing an alluvial aquifer. During construction of the athletic fields, the thin layer of impermeable clay that isolated the aquifer and the surface was disturbed. This disturbance has allowed communication of the aquifer and the surface during wet periods of the year. The dewatering project is a system of three wells, pumps and a collection system used to dewater the athletic fields when groundwater rises during wet times of the year. The water wells will be equipped with groundwater sensors that will initiate pumping when groundwater levels reach a predetermined level and shut off when they are lowered to a lower predetermined level. Under constant pumping, the three-wells could withdraw as much as 4.3 MGD but the system will only operate as groundwater levels require. Stormwater would not be removed by the system as the field has been bermed to prevent stormwater run-on from getting onto the fields. Stormwater is removed by a separate system not part of this permit.

The discharge from the site is to the Mora River in Waterbody Segment No. 20.6.4.309 of the Canadian River Basin. The discharge is located at Latitude 35° 58' 34.1" North, Longitude 105° 19' 59.5" West.

III. EFFLUENT CHARACTERISTICS

The permittee did not provide any actual data in their application form 2C dated March 2023 citing no discharge during the previous permit term. September 2021 Compliance inspection report indicates that a total of about 6,077,000 gallons of water was pumped out of the groundwater wells between July 6, 2021 and September 2, 2021 but reported “no discharge” on the DMRs.

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water,” more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The current permit expires June 30, 2023, and a permit renewal application was received February 26, 2023, in accordance with provisions found at 40 CFR §122.21(d) and (e). The permit application was deemed administratively complete on March 16, 2023.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

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

Regulations contained in 40 CFR §122.44 require that NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

There are no technology-based effluent limitations established in the proposed draft permit. Water quality-based effluent limitations are established in the proposed draft permit for TDS, pH and TSS.

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 groundwater reduction project not associated with any groundwater cleanup activity such as but not limited to contaminated underground storage tanks. There are no ELG's established at 40 CFR for this type of facility. Permit limits addressing technology-based pollutants will be based on BPJ. Removal of groundwater and return to the Mora River will propose TSS limits of 45 mg/l daily maximum and 30 mg/l 30-day average based on flow detention technology. In addition, pH shall be limited to be between 6-9 su. These limits in table 1 are considered BPT/BCT and are established in the draft permit using BPJ.

Table 1:

Parameter	30-Day Avg	7-Day Avg.
Flow	Measure MGD	Measure MGD
TSS	30 mg/l	45 mg/l
pH	6.0 – 9.0 standard units	

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under 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.

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 Water Quality Standards

The New Mexico State Standards for Interstate and Intrastate Surface Waters are found at 20.6.4 NMAC, amended through July 24, 2020, and can be found at <https://www.epa.gov/sites/default/files/2014-12/documents/nmwqs.pdf>

The facility discharges into the Mora River in segment number 20.6.4.309 of the Canadian River Basin. The designated uses of the receiving water are domestic water supply, irrigation, high quality coldwater aquatic life, livestock watering, wildlife habitat, and primary contact.

4. Permit Action - Water Quality-Based Limits

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

a. pH

Of the designated uses for segment number 20.6.4.309, high quality aquatic life has the most restrictive pH limit requirements of 6.6 su to 8.8 su, which are more restrictive than the 6 su - 9 su established in the technology-based section above. The pH of 6.6 su to 8.8 su in the previous permit will be maintained in the draft permit.

b. 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 criteria, the permit must contain an effluent limit for that pollutant.

ii. Critical Conditions

Critical conditions are used to establish certain permit limitations and conditions. Both the NMWQS and NMIP establish a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years. The NMED

provided the low flow or 4Q3 of 1.77 cfs (1.14 MGD). This 4Q3 was used in the EPA approved 2022-2024 “Total Maximum Daily Load for the Mora River (Highway 434 to Luna Creek).” For permitting purposes of certain parameters such as WET, the critical dilution (CD) of the effluent to the receiving stream is determined. Critical dilution (CD) is expressed as the ratio of the effluent flow (Q_e) divided by the sum of the low flow (Q_a) and the effluent flow as follows:

$$CD = Q_e / [Q_e + Q_a]$$

Where: $Q_a = 1.77$ cfs (1.14 MGD)

$Q_e = 4.32$ MGD

No discharge occurred during the previous permit term. The EPA used the 4Q3 of 1.14 MGD and the estimated average effluent flow of 3000 gpm (4.32 MGD) provided in the application to calculate CD for the site.

$$CD = 4.32 / [4.32 + 1.14]$$

$$CD = 0.791 \text{ or } 79\%$$

Since there was no discharge in the previous permit term, EPA did not conduct an evaluation for RP to cause or contribute to State WQS exceedances. There are no permit limits that need to be placed in the permit for the protection of State numerical WQS.

5. TMDL Requirements

On November 28, 2011, EPA approved an updated TMDL; “Total Maximum Daily Load for the Mora River (Highway 434 to Luna Creek).” The TMDL developed WLAs for specific conductance (SC) and stream bottom deposits (SBD) to provide protection of the high quality coldwater aquatic life designated uses of the Mora River. The updated TMDL established WLA of 12,970 lbs/day for TDS as a surrogate for SC (based on the target TDS concentration of 360 mg/l) and WLA of 318 lbs/day for TSS as a surrogate for SBD (based on the target TSS concentration of 8.83 mg/l). The EPA used these WLAs to establish limits in the previous permit. The TMDL based TSS limits of 8.83 mg/l and 318 lbs/day, and the TMDL based TDS limits of 360 mg/l and 12,970 lbs/day, in the previous permit will be maintained in the draft permit.

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 15, 2012, NMIP. Flow is proposed to be measured daily when discharging. Based on the source of the discharge; groundwater that is not a function of man-made activity, the parameters pH, TSS and TDS shall use grab samples and will have monitoring frequency of once per month when discharging.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 of Section V of the NMIP outlines the type of WET testing for different types of discharges. The project is classified as a minor industrial discharging to a perennial waterbody, and the CD was previously determined to be 79%. The draft permit will require a one-time 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas*. The test is to be conducted within the first 12-months after the permit effective date between November 1 and April 30. 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. Previously it was shown that the CD is 79%. The effluent concentrations shall be 25%, 33%, 44%, 59%, and 79%.

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 groundwater from Outfall 001 to the Mora River. Discharges shall be limited and monitored by the permittee as specified below:

WET Testing (7-day Chronic NOEC Freshwater) ¹	NOEC	Measurement Frequency	Sample type
<i>Ceriodaphnia dubia</i>	Report	Once/permit term, if discharge occurs	24-Hr Composite
<i>Pimephales promelas</i>	Report	Once/permit term, if discharge occurs	24-Hr Composite

FOOTNOTES:

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.

VI. 303(d) LIST

Previously in Part V of the Fact Sheet, pollutants that were based on 303(d) lists were considered in the draft permit. There are no additional pollutants needing limits based on 303(d) lists or completed TMDLs approved by EPA to date. The standard reopener language in the permit allows additional permit conditions if warranted by future changes and/or new TMDLs.

VII. ANTIDegradation

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

VIII. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Information for Planning and Consultation (IPaC), <https://ipac.ecosphere.fws.gov/>, Five species in Mora County are listed as endangered (E) or threatened (T). Three of the species are avian and include the southwestern willow flycatcher (*Empidonax traillii extimus*) (E), yellow-billed cuckoo (T) (*Coccyzus americanus*), and the Mexican spotted owl (T) (*Strix occidentalis lucida*) listed as threatened. Two mammal species are New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) (E) and Black-footed Ferret (E), (*Mustela nigripes*) are listed as Endangered species for this county

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 **yellow-billed cuckoo** is a Neotropical migrant bird that winters in South America and breeds in North America. The yellow-billed cuckoo has been listed as endangered. The primary cause of loss and degradation of yellow-billed cuckoo is the loss and degradation of riparian breeding habitat, which is believed to have caused the declines in the distribution and abundance of the species. Conversion to agriculture and other land uses, urbanization, dams and river flow management, stream channelization and bank stabilization, and livestock grazing are the causes

of riparian habitat losses. The permit does not authorize activities that may cause destruction of the yellow-billed cuckoo habitat, and issuance of the permit will have no effect on this species.

Research of available material finds that the primary cause for the population decreases leading to threatened status for the Mexican Spotted Owl is destruction of habitat. No pollutants are identified which might affect species habitat or prey species and are not limited by the permit. Catastrophic fires and elimination of riparian habitat also were identified as threats to species habitat. The NPDES program regulates the discharge of pollutants and does not regulate forest management practices and agricultural practices, which contribute to catastrophic fires and elimination of riparian habitat, and thus, species habitat. The issuance of this permit is found to have no impact on the habitat of this species.

The **Mexican spotted owl** is mottled in appearance with irregular white and brown spots on its abdomen, back and head. The Mexican spotted owl currently occupies a broad geographic area, but often occurs in isolated mountain systems and canyons. Riparian communities and previously occupied localities in the Southwest and southern Mexico have undergone significant habitat alteration since the historical sightings. The largest concentration of Mexican spotted owls in New Mexico occurs in the Mogollon and Sacramento Mountain ranges. The Mexican spotted owl has been recorded in all the forested areas of New Mexico at elevations of 3,700 to 10,000 feet. Habitat consists of caves, cliff ledges, and stick nests of other species in mature and old growth forest associated with steep canyons. The preferred vegetation type is mixed conifer; however, they can be found in pinyon-juniper, pine-oak, and ponderosa pine. The Mexican spotted owl has been located in Santa Fe National Forest to the west and other forested lands to the south of the MISD. However, as the Mora Valley was harvested of old growth trees in the 1930's and the majority of the forest remaining in the project area is new growth Ponderosa pine. The operation of the MISD will have no effect on the Mexican spotted owl or its habitat.

New Mexico meadow jumping mouse is a small, nocturnal, solitary mammal and an obligate riparian subspecies. Its historical distribution likely included riparian wetlands along streams in the Sangre de Cristo and San Juan Mountains from southern Colorado to central New Mexico, including the Jemez and Sacramento Mountains and the Rio Grande Valley from Española to Bosque del Apache National Wildlife Refuge, and into parts of the White Mountains in eastern Arizona. Ongoing and future habitat loss is expected to result in additional extirpations of more populations. Research indicates that the primary sources of past and future habitat losses are from grazing pressure (which removes the needed vegetation) and water management and use (which causes vegetation loss from mowing and drying of soils), lack of water due to drought (exacerbated by climate change), and wildfires (also exacerbated by climate change). Additional sources of habitat loss are likely to occur from scouring floods, loss of beaver ponds, highway reconstruction, coal-bed methane development, and unregulated recreation. The issuance of this permit is found to have no impact on the habitat of this species.

The **Black-footed Ferret** is a weasel-like carnivore within the family of Mustelids (weasels, skunks, badgers, and otters) and is the only ferret native to North America. Black-footed ferrets are secretive, mostly nocturnal, normally solitary carnivores found in association with prairie dogs. The main prey item of black-footed ferrets is prairie dogs, which the ferrets capture and kill within their burrows at night. These ferrets have also been known to feed on rabbits, mice,

voles, ground squirrels, pocket gophers, birds, and insects. Black footed ferrets have not been historically found or located in Northeastern or North Central New Mexico. The species was last confirmed in New Mexico in 1934. Ferret densities are positively correlated with prairie dog densities. The smallest town known to support one adult ferret in one year is about 31-acres. Normally, ferrets are not found in prairie dog towns of about 100-acres or less. A complex (groups of prairie dog towns) having large towns and distributed closely offers the best opportunity for ferret dispersal, establishment, and survival. The causes for the decline of the species are mainly attributable to the widespread eradication of prairie dogs, the main provider of food, shelter, and dens for the ferret. Future threats to the ferret include the destruction of prairie habitat and legal prairie dog eradication. The land use in the site of the discharge area is too small to support prairie dog towns and lacking suitable food source the MISD discharge will have No Effect on the black-footed ferret or its potential habitat.

After review, EPA has determined that the issuance of Permit No. NM0031097 will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat.

IX. 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.

X. PERMIT REOPENER

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

XI. VARIANCE REQUESTS

No variance requests have been received.

XII. 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.

XIII. FINAL DETERMINATION

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

XIV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Forms 1 and 2C received February 26, 2022.

B. 40 CFR CITATIONS

Citations to 40 CFR Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

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

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

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

D. MISCELLANEOUS REFERENCES

Application received for renewal of NPDES Permit No. NM0031097 from Mieke Ruina, EA Engineering, Science, and Technology, Inc., PBC on February 26, 2023.

February 26, 2023, Application was deemed complete and completeness letter sent to the Permittee.