NPDES PERMIT NO. NM0031208
FACT SHEET

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

APPLICANT

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ISSUING OFFICE

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DATE PREPARED

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PERMIT ACTION

First time issuance

RECEIVING WATER – BASIN

Unnamed tributary to Ironhouse Draw and/or Monument Draw

DOCUMENT ABBREVIATIONS

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

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

I. CHANGES FROM THE PREVIOUS PERMIT

- Not applicable

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility (Outfall 001: Latitude 32° 40' 04" North and Longitude 103° 27' 19" West) is located on Pearl Valley Road (CR 43) at U.S. HWY 62, City of Hobbs, Lea County, New Mexico.

Under the SIC code 4950, the applicant privately operates a proposed WWTP named Quai Run Services – Hobbs, which has a discharge flow of 0.15 MGD; expected date to discharge is January 1, 2019. Influent water (Domestic Wastewater) will be trucked onto the site and placed in the Flow Equalization Basins (two planned). From the Equalization Basins, water will pass through multiple screens as it is transferred to the Aeration Basins (two planned). Water is then transferred to one of two Digesters to continue the anaerobic digestion process. Treated supernatant water is transferred from the Digesters and continues through the remaining treatment process, while settled sludge is either removed or mixed back into the aeration basin to assist with anaerobic digestion. Settled sludge will be dewatered, trucked off the site, and properly disposed of. The partially treated waste water continues to the Clarifier, where additional sludge/solid removal takes place before passing through the Disinfection basin. A chlorine solution is added to the water in the Disinfection Basin to remove remaining microorganisms. The final component is a Disk Filter system to remove additional particle solids. The final treated effluent is then piped to an existing unlined drainage wash and is discharged to unnamed tributary to Ironhouse Draw and/or Monument Draw. Sewage sludge is hauled off for further treatment/disposal. A map of the facility is attached.

III. EFFLUENT CHARACTERISTICS

Estimated data submitted in Form 2E for the WWTP is as follows:

Parameter	**Max,** mg/l unless noted	**Avg,** mg/l unless noted
pH, minimum, standard units (su)	NA	7 - 8
pH, maximum, standard units (su)	9	NA
Flow (MGD)	0.15	0.15
Temperature (C), winter	15	12
Temperature (C), summer	32	20
Biochemical Oxygen Demand, 5-day (BOD_5)	45	13
E. coli (cfu/100 ml)	410	126
Total Suspended Solids (TSS)	45	9.8
O&G	100	50
Ammonia, as N	12	9.5

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 the 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 dated August 24, 2018. It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

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 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Technology-based effluent limitations are established in the proposed draft permit for BOD, TSS and percent removal for each. Water quality-based effluent limitations are established in the proposed draft permit for *E. coli* bacteria, pH and TRC.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. General Comments

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

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

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants, including BOD, TSS, *E. coli* bacteria, pH, and O&G.

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

2. Effluent Limitation Guidelines

Limitation for this facility is based on BPJ. The facility is a POTW-like that has technology-based limits established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with requirements established in this Chapter are BOD, TSS and pH. BOD 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, the same numbers as for BOD, are found at 40 CFR §133.102(b). Limits for pH are between 6-9 s.u. and are found at 40 CFR §133.102(c). Since these are technology-based requirements there is no compliance schedule provided to meet these limits. Compliance is required on the permit effective date.

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 similar, 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)(l)/(mg)(MG) * design flow in MGD

30-day average BOD/TSS loading = 30 mg/l * 8.345 (lbs)(l)/(mg)(MG) * 0.15 MGD = 37.5 lbs/day
7-day average BOD/TSS loading = 45 mg/l * 8.345 (lbs)(l)/(mg)(MG) * 0.15 MGD = 56.3lbs/day

A summary of the technology-based limits for the facility is:

Parameter	**30-day Avg, lbs/day, unless noted**	**7-day Max, lbs/day, unless noted**	**30-day Avg, mg/l, unless noted**	**7-day Max, mg/l, unless noted**
BOD	37.5	56.3	30	45
BOD, % removal[1]	≥ 85	---	---	---
TSS	37.5	56.3	30	45
TSS, % removal[1]	≥ 85	---	---	---
pH	N/A	N/A	6.0 to 9.0 s.u.	6.0 to 9.0 s.u.

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

3. Pretreatment Regulation

The facility is not subject to the full pretreatment program pursuant to 40 CFR 403.8.

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

2. Implementation

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

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC approved on August 11, 2017). The wastewater flows from the outfall to an unnamed tributary to Ironhouse Draw and/or Monument Draw. Concurring with NMED, EPA considers this receiving stream as intermittent as defined in 20.6.4.98 NMAC. The stream designated uses are livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact. Since the 4Q3 is zero, applicable criterion must be met at point of discharge.

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

For marginal warmwater aquatic life, criterion for pH is between 6.6 and 9.0 s.u. pursuant to 20.6.4.900.H(6) NMAC. This limitation is more stringent than the technology-based effluent one; EPA establishes this limitation in this permit.

b. Bacteria

Criterion for E. coli bacteria is at 206 cfu/100 ml monthly geometric mean and 940 cfu/100 ml daily maximum pursuant to 20.6.4.98.B NMAC.

c. Toxics

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.

The facility is designated as a minor discharger; the toxic pollutants are not evaluated.

d. TRC

For wildlife habitat, criteria for TRC is 11 ug/l pursuant to 20.6.4.900.G NMAC.

e. DO

For marginal warmwater aquatic life, criteria for DO is 5 mg/L or more pursuant to 20.6.4.900.H(6) NMAC. EPA requires the permittee to monitor DO once/quarter for future stream assessment done by NMED.

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 Table 9 (page 34 of the NMIP) for design flow between 0.1 and 0.5 MGD.

Parameter	Frequency	Sample Type
Flow	Daily	Totalized meter
pH	5/week	Instantaneous Grab
BOD_5/TSS	2/month	Grab
% Removal	Once/month	Calculation
TRC	5/week	Instantaneous Grab
E. coli Bacteria	2/month	Grab
DO	Quarterly	Instantaneous Grab

E. WHOLE EFFLUENT TOXICITY

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 (page 42) of the NMIP outlines the type of WET testing for different types of discharges. Because of the immediate receiving water, an intermittent stream (4Q3 = 0), the CD is 100%. EPA proposes WET testing for this discharger as follow:

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations must be 32%, 42%, 56%, 75% and 100%. The low-flow effluent concentration (critical low-flow dilution) is defined as 100% effluent. The permittee shall monitor discharge(s) as specified below:

WET Testing (7-day Static Renewal)[1]	NOEC	Frequency[2]	Type
Ceriodaphnia dubia	Report	Once/permit term	Grab
Pimephales promelas	Report	Once/permit term	Grab

[1] Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
[2] The test shall take place between November 1 and April 30; during the 1st to 4th year of the permit term or as soon as possible. EPA may reopen the permit if the test fails.

VI. TMDL REQUIREMENTS

There has not been water quality assessment for the receiving stream because the receiving stream is intermittent according to the state's water quality standard designation of 20.6.98 NMAC. No additional requirement is necessary now.

The permit has a standard reopener clause that would allow the permit to be changed if at a later date additional requirements on new/revised TMDLs or temporary standards are completed.

VII. ANTIDEGRADATION

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, NMAC Section 20.6.4.8.A.1.

Additional sampling and reporting requirements are incorporated in this permit to provide effluent quality data from the discharge of this facility that will not be available until the facility is operational. The State requires that within the two years of operation, the effluent data from the actual discharge of this facility be submitted for the final Antidegradation review.

VIII. ENDANGERED SPECIES CONSIDERATIONS

According to the list updated on August 27, 2018 for Lea County, NM obtained from http://ecos.fws.gov, there is no endangered (E)/threatened (T) species in the area.

IX. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

New Mexico State Historic Preservation Division has been requested to review affects (if any) regarding to the proposed WWTP. Until concerns (if any) are adequately addressed, the permit cannot be issued.

X. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if NMWQS are promulgated or revised. In addition, if the State develops 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

None

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 of COE, to the Regional Director of FWS 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 Applications: Form 1 (dated July 9, 2018), Form 2E (dated August 24, 2108) and Form 2S (dated August 29, 2018)

B. 40 CFR CITATIONS

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 August 11, 2017

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2016-2018

D. MISCELLANEOUS

NMIP, March 2012

Permittee:

NMED: email dated August 24, 2018