

# **NPDES PERMIT NO. NM0028088**

## **FACT SHEET**

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

### **APPLICANT**

Glorieta Adventure Camps  
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### **ISSUING OFFICE**

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### **DATE PREPARED**

April 14, 2023

### **PERMIT ACTION**

Renewal of a permit previously issued on August 14, 2018, with an effective date of October 1, 2018, and an expiration date of September 30, 2023.

### **RECEIVING WATER – BASIN**

Glorieta Creek – Pecos River Basin

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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
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
ML	Minimum quantification level
O&G	Oil and grease
POTW	Publicly 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

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

## I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued on August 14, 2018, with an effective date of October 1, 2018, and an expiration date of September 30, 2023, are as follow:

- Per- and Polyfluoroalkyl Substances (PFAS) monitoring requirements have been established.

## II. APPLICANT LOCATION and ACTIVITY

Under the SIC code 4952, the applicant operates a privately owned WWTP (POTW-like). The facility has a design flow capacity of 0.40 MGD providing sanitary services for the conference center, including food service, for Glorieta Camps and Glorieta Village with population ranging from 210 to 3060 people. There is no industrial flow connecting to this facility.

The WWTP primarily consists of bar screen/grid chamber, aeration basin, clarifier, an ultraviolet (UV) disinfection unit, imhoff tanks for digestion/thickening, and sludge drying beds. Effluent is disinfected by the UV unit and discharged into the receiving creek. Sludge is composted to Class A bio-solids according to 40 CFR 503 requirements and then tested for metals and fecal coliform before giving it away.

As described in the application, the facility is located at 11 State Road 50, Glorieta, Santa Fe County, New Mexico. Its single outfall is located at the following coordinates:

Latitude: 35° 35' 6.56" North      Longitude: 105° 45' 59.4" West

The discharge is to receiving water Glorieta Creek of the Pecos River watershed, segment 20.6.4.217 NMAC. The designated uses of the receiving water(s) are domestic water supply, fish culture, high quality cold-water aquatic life, irrigation, livestock watering, wildlife habitat, primary contact and public water supply on the main stem of the Pecos River.

## III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received on April 3, 2023, are presented below in Table 1:

**Table 1:** Effluent Data

Parameter	Max	Avg
Flow (MGD)	0.118	0.023
Temperature, winter, °C	9.8	4.8
Temperature, summer, °C	22	15.2
pH, minimum, standard units (s.u.)	6.79	N/A
pH, maximum, standard units (s.u.)	7.73	N/A
Biochemical Oxygen Demand, 5-day (BOD <sub>5</sub> )	7.0 mg/L	1.97 mg/L
E. coli /Fecal Coliform(MPN/100 ml)	3.1	1.09
Total Suspended Solids (TSS)	4.0 mg/L	0.27 mg/L
Ammonia (NH <sub>3</sub> )	0	0

TRC (ug/l)	NA	NA
Oil & Grease	0	0
Nitrate/nitrite	32 mg/L	24.8 mg/L
Kjeldahl Nitrogen	2.2 mg/L	0.4 mg/L
Total dissolved solids	532 mg/L	490.6 mg/L
Phosphorous	5.8 mg/L	4.1 mg/L

A summary of the last 36 months of available data (from 1/1/2020 to 1/1/2023) taken from DMRs shows the facility exceeded permit effluent limits for *E. coli*, BOD<sub>5</sub>, Total Suspended Solids and Percent Removal once (May 31, 2020). The facility has also had a difficult time achieving the current effluent limit requirements for Specific Conductance. It exceeded the daily maximum of Specific Conductance effluent limits numerous times (i.e., 12)

#### 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 received on April 3, 2023. It is proposed that the permit be reissued 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 TSS and BOD, 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<sub>5</sub>, 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

The facility is a privately owned treatment work (PrOTW). This type of facility, in general, is subject to technology-based limits that require BPT, BAT, BCT and/or NSPS. These limits are established based upon applicable effluent limitation guidelines (ELGs), and Best Professional Judgement (BPJ) (for wastestreams not covered by a guideline). There are no ELG's established at 40 CFR for this type of facilities. Permit limits are proposed based on BPJ. Using Best Professional Judgement, the technology-based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation, which apply to the same type of treatment plants when publicly owned, are used to establish technology-based effluent limitations for this permit. Pollutants with ELG's established in this section are BOD<sub>5</sub>, TSS and pH. BOD<sub>5</sub> 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; also 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(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 PrOTWs or similar, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

$$\text{Loading in lbs/day} = \text{pollutant concentration in mg/L} * 8.345 \text{ (lbs)(l)/(mg)(MG)} * \text{design flow in MGD}$$

30-day average BOD<sub>5</sub>/TSS loading = 30 mg/L \* 8.345 (lbs)(l)/(mg)(MG) \* 0.4 MGD

30-day average BOD<sub>5</sub> /TSS loading = 100 lbs/day

7-day average BOD<sub>5</sub>/TSS loading = 45 mg/L \* 8.345 (lbs)(l)/(mg)(MG) \* 0.4 MGD

7-day average BOD<sub>5</sub>/TSS loading = 150 lbs/day

30-day average O&G loading = 10 mg/L \* 8.345 (lbs)(l)/(mg)(MG) \* 0.4 MGD

30-day average O&G loading = 33 lbs/day

7-day average O&G loading = 15 mg/L \* 8.345 (lbs)(l)/(mg)(MG) \* 0.4 MGD

7-day average O&G loading = 50 lbs/day

A summary of the technology-based limits for the facility is shown in Table 2:

**Table 2:** Technology-based Effluent Limits (0.4 MGD Design Flow)

Parameter	30-day Avg	7-day Avg	30-day Avg	7-day Avg
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD <sub>5</sub>	100 lbs./day	150 lbs./day	30 mg/L	45 mg/L
BOD <sub>5</sub> , % removal <sup>1</sup>	≥ 85	---	---	---
TSS	100 lbs./day	150 lbs./day	30 mg/L	45 mg/L
TSS, % removal <sup>1</sup>	≥ 85	---	---	---
O&G	33 lbs./day	50 lbs./day	10 mg/L	15 mg/L
pH	N/A	N/A	6 - 9 standard units <sup>2</sup>	

**Footnotes:**

1. Percent 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.4.a below.

The facility will be required to monitor the influent of BOD<sub>5</sub> and TSS on a once per month frequency for use to determine 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.

## 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 general and specific stream standards are provided in NMWQS (20.6.4 NMAC effective September 24, 2022). The discharge is to receiving water Glorieta Creek of the Pecos River watershed, segment 20.6.4.217 NMAC. The designated uses of the receiving water(s) are domestic water supply, fish culture, high quality cold-water aquatic life, irrigation, livestock watering, wildlife habitat, primary contact and public water supply on the main stem of the Pecos River.

## 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 high quality cold-water aquatic life, criteria for pH is between 6.6 and 8.8 s.u. pursuant to 20.6.4.900.H(1) NMAC. The draft permit will maintain these limits.

### b. Dissolved Oxygen (DO)

The State of New Mexico WQS criterion applicable to the high quality coldwater aquatic life designated use is at least 6 mg/L for dissolved oxygen. As a part of the permitting process, EPA used the LA-QUAL water quality model, which is a steady-state one-dimensional model which assumes complete mixing within each modeled element, to develop permit parameters for the protection of the State of New Mexico surface water WQS for DO (i.e., 6 mg/L). Primarily based on the Glorieta Adventure Camps Treatment Plant's design flow of 0.4 MGD (0.0175 m<sup>3</sup>/s), the receiving water critical flow of 0.007 MGD (0.00031 m<sup>3</sup>/s), and various BOD<sub>5</sub> factors including BOD<sub>5</sub> Secondary Treatment Standards were considered and simulated to achieve the DO criterion. A complete characterization of Glorieta Creek (i.e., water quality and hydrodynamic data) was not available. Assumptions were made when there was no data. The following is a summary of model inputs.

- The Glorieta Adventure Camps Wastewater Treatment Plant's design flow is 0.4 MGD (0.0175 m<sup>3</sup>/s). The discharge location provided in the permit application is located at Latitude 35° 35' 6.56" North (35.585), and Longitude -105° 45' 59.4" West (105.7665). Other effluent parameters provided in the permittee's NPDES application which were applied in the model include E. coli (Avg: 1.09

MPN/100ml), temperature (Avg: 15.2 °C), Nitrate/nitrite (24.8 mg/L) and Phosphorous (Avg: 4.1 mg/L). Facility effluent DO (Avg: 6 mg/L) was assumed since no data were available.

- The NMED provided the following information. The critical low flow of Glorieta Creek receiving stream is approximately 0.007 MGD (0.00031 m<sup>3</sup>/sec). Other parameters applied in the model include ambient E. Coli (Avg: 2.2 MPN/100mL), Nitrate/Nitrite (Avg: 17.7 mg/L), Salinity (Avg: 0.36 ppt) temperature (Avg: 11.3 °C), DO (Avg: 7.4 mg/L), and Phosphorous (Avg: 1.13 mg/L).
- The EPA used the State of New Mexico's OpenEnviroMap to estimate the average elevation of the study area, segment length and average width of Glorieta Creek. The average elevation is approximately 2,286 meter (7,500 feet). The average width and depth of Glorieta Creek at critical conditions were assumed approximately 2 meters (3 feet) and 0.3 meters (1 foot), respectively, and the studied segment length is approximately 14.5 kilometers (9 miles).

The model results show no excursion of the receiving stream DO standard of 6 mg/L when the BOD<sub>5</sub> limits of 30 mg/l for monthly average and 45 mg/l for 7-day maxima were applied (see graph with 30/45 mg/L BOD<sub>5</sub> in Appendix 1; other detail information is available upon request).

The model results are based on the assumptions and default values as explained and presented above. Should these conditions change, the model should be updated to provide a more accurate assessment of the water quality within the receiving water body.

#### c. Bacteria

Criteria for E. coli bacteria is at 126 cfu/100 mL monthly geometric mean and 235 cfu/100 mL daily maximum pursuant to 20.6.4.217 NMAC. The draft permit will maintain these limits.

#### d. Specific Conductance

New Mexico Standards for Interstate and Intrastate Surface Waters, Segment 20.6.4.217 has Specific Conductance of 300 µS/cm or less. As mentioned, the facility has had a difficult time achieving the Specific Conductance effluent limits during the previous permit term. The primary reason for exceedance of effluent limits at the facility is due to high natural mineral content in its influent. The facility is using water from two wells in the vicinity, whose water has a specific conductance between 500 - 980 us/cm (which is well above the effluent limits of 300 µS/cm), as their source of water. The facility does not believe they will ever be able to achieve the current limit requirements. The permittee is planning to build a new MBBR facility to replace existing one and switches over to 100% groundwater discharge with an option to discharge to Glorieta Creek, if needed. In the submitted NPDES application, facility requested EPA to add a variance for Specific Conductance to the facility permit that would raise the effluent limit to 850 us/cm or make specific conductance a report only for the next five years. Since the request is related to the revision of New Mexico Standards for Interstate and Intrastate Surface Waters 20.6.4 New Mexico Administrative Code (NMAC), EPA cannot grant the request. The EPA referred the permittee to work directly with NMED on the issue. Meanwhile, the draft permit will maintain the daily maximum effluent limits of 300 µS/cm for specific conductance.



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e. 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.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of “publicly owned treatment works” (like private domestics, or similar facilities on Federal property). The forms were designed and promulgated to “make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities,” per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

The facility is designated as a minor, and does not need to fill out the expanded pollutant testing section Part D of Form 2A. There are no toxics that need to be placed in the draft permit except for those described below.

i) TRC

The facility uses UV to treat bacteria. Consistent with all POTWs in the State of NM; however, TRC limitations are placed in permits to provide discharge limitations in the event chlorine is used as backup bacteria disinfection treatment and/or cleaning and disinfection of process equipment and/or used to control filamentaceous algae. The previous permit TRC limit of 11 µg/L will be continued in the draft permit with the conditions above stated as to when the facility needs to provide monitoring for TRC. When the above conditions are not being used the permittee may report N/A with a note stating chlorine was not used in the manner stated in the permit footnote.

ii) Per- and Polyfluoroalkyl Substances (PFAS)

As explained at <https://www.epa.gov/pfas>, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects (EPA, 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 for toxic substances at 20.6.4.13(F)(1) NMAC states:

*“Except as provided in 20.6.4.16 NMAC, surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, duration, 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.”*

The 2022 New Mexico Water Quality Standards includes narrative criteria for monitoring of emerging contaminants at 20.6.4.13(F) that states

*“Emerging Contaminants Monitoring: The department may require monitoring, analysis and reporting of emerging contaminants as a condition of a federal permit under Section 401 of the federal Clean Water Act.”*

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. The EPA is authorized to require this monitoring and reporting by CWA § 308(a), which states:

“SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act—

(A) the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require;”.

EPA notes that there is currently not an analytical method approved in 40 CFR Part 136 for PFAS. As stated in 40 CFR § 122.44(i)(1)(iv)(B), in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. Therefore, the draft permit specifies that until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Draft Method 1633. The draft Adsorbable Organic Fluorine CWA wastewater method 1621 can be

used in conjunction with draft method 1633, if appropriate. This is consistent with the December 5, 2022 USEPA Memorandum, Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs, from Radhika Fox.

In October 2021, EPA published a PFAS Strategic Roadmap that described EPA's commitments to action for 2021 through 2024. This roadmap includes a commitment to issue new guidance recommending PFAS monitoring in both state-issued and federally issued NPDES permits using EPA's recently published analytical method 1633. In anticipation of this guidance, EPA has included PFAS monitoring in the draft permit using draft analytical method 1633.

Draft Method 1633 is currently a single lab-validated method. EPA anticipates the method will be multi-lab validated in 2023. If the PFAS monitoring requirement begins before Draft Method 1633 is multi-lab validated, the current single lab validated Draft Method 1633 shall be used at that time, and then the multi-lab validated Draft Method 1633 shall be used once it is available.

#### 5. 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 table 9 (page 34 of the NMIP) with design flow between 0.1 and 0.5 MGD; frequency for O&G is remained unchanged from the previous permit.

Parameter	Frequency	Sample Type
Flow	Daily	Totalized Meter
pH	5/week	Instantaneous Grab
BOD	2/month	Grab
TSS	2/month	Grab
% Removal	1/month	Calculation
TRC (if necessary)	5/week	Instantaneous Grab
E. coli Bacteria	2/month	Grab
O&G	Semi-annual	Grab

#### D. WHOLE EFFLUENT TOXICITY

There are no active or inactive USGS gauging stations. The previous critical low flow frequency (4Q3) used for the last permit cycle was zero (0). The NMED provided an updated 4Q3 using information generated from streamstats and the regression equation from the *Analysis of the Magnitude and Frequency of the 4-Day Annual Low Flow and Regression Equations for Estimating the 4-day, 3- Year Low- Flow Frequency at Ungage Sites on unregulated streams in New Mexico* by Scott D. Waltemeyer (2002).

$$4Q3 = (7.3287 * 10^{-5}) * (\text{Drainage Area}^{0.70}) * (\text{Mean Winter Precip.}^{3.58}) * (\text{Avg. Basin Slope}^{1.35})$$

$$4Q3 = 0.000073287 * (0.96^{0.70}) * (7.16^{3.58}) * (0.23^{1.35})$$

$$4Q3 = 0.011 \text{ cfs} = 0.007 \text{ MGD}$$

CD is calculated as follows:

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

Where:

CD = Critical dilution

$Q_a$  = Critical low flow of receiving stream-4Q3 (0.007 MGD)

$Q_e$  = Wastewater Treatment Plant design flow (0.4 MGD)

Therefore,

$$CD = 0.4 / [0.4 + 0.007]$$

$$CD = 0.983 \text{ or } 98.3\%$$

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. Based on the nature of the discharge, a POTW/POTW-like, the design flow of 0.4 MGD, and the nature of the receiving water, intermittent with the critical dilution of 98%, the NMIP directs the WET test to be a 7-day chronic tests using *Ceriodaphnia dubia* and *Pimephales promelas* once in the first year. If the chronic tests pass, 48-hr acute test using *Daphnia pulex* will be required annually for the remaining term.

The EPA Reasonable Potential Analyzer for outfall 001 indicates that no RP exists for *Ceriodaphnia dubia*, *Pimephales promelas*, and *Daphnia pulex* (see Appendix 2). WET limits will not be established in the proposed permit for the invertebrate or vertebrate species for outfall 001. EPA concludes that this effluent does not cause or contribute to an exceedance of the State water quality standards. Therefore WET limits will not be established in the proposed permit. However, WET monitoring requirement is remained in the draft 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 31%, 41%, 55%, 74%, and 98%. The low-flow effluent concentration (critical low-flow dilution) is defined as 98 % effluent. Discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	30-day Avg. Min.	7-day Min.	Frequency	Type
WET Testing (7-day Static Renewal) <sup>1</sup>	30-day Avg. Min.	7-day Min.	Frequency	Type
<i>Ceriodaphnia dubia</i> (1 <sup>st</sup> year)	Report	Report	Once/year <sup>2</sup>	24-hr Composite
<i>Pimephales promelas</i> (1 <sup>st</sup> year)	Report	Report	Once/year	24-hr Composite

WET Testing (48-hr Static Renewal) <sup>1</sup>	30-day Avg. Min.	48-hr Min.	Frequency	Type
Daphnia pulex (years: 2 <sup>nd</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> , 5 <sup>th</sup> )	Report	Report	Once/ year <sup>2</sup>	24-hr Composite

Footnotes:

<sup>1</sup> 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.

<sup>2</sup> The test shall take place between November 1 and April 30. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

## VI. TMDL REQUIREMENTS

The Appendix A of the 2022-2024 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report lists Pecos River segment 20.6.4.217 is impaired for nutrients and specific conductance. No TMDL has not been developed and finalized for this segment yet. However, the draft permit continues to require the facility to monitor nutrients (total phosphorus and total nitrogen). The permit has a standard reopener clause that would allow the permit to be changed if later additional requirements on new or revised TMDLs are completed.

## VII. ANTI-DEGRADATION

The NMAC, Section 20.6.4.8 “Anti-degradation 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 the US Fish and Wildlife Service (USFWS) website, <https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=35049>, six are listed as endangered (E) or threatened (T) in Santa Fe County, NM. Six species include Yellow-billed Cuckoo (*Coccyzus americanus*) (T), Mexican spotted owl (*Strix occidentalis lucida*) (T), Southwestern willow flycatcher (*Empidonax traillii extimus*) (E), Mexican wolf (*Canis lupus baileyi*) (E), Jemez Mountains salamander (*Plethodon neomexicanus*) (E) and New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) (E). All species except for Mexican wolf (*Canis lupus baileyi*), Jemez Mountains salamander (*Plethodon neomexicanus*) and New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) (E) were listed in the previous permit with determination of “no effect”. According to the report, there are no critical habitats downstream of the facility for all the species.

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:

1. In the previous permit issued August 14, 2018, EPA made a “no effect” determination for federally listed species mentioned above except for Mexican wolf, Jemez Mountains salamander and New Mexico meadow jumping mouse. The EPA has received no additional information since then which would lead to a revision of that “no effect” determination. The EPA determines that this reissuance will not change the environmental baseline established by the previous permit, and therefore, EPA concludes that reissuance of this permit will have “no effect” on the listed species and designated critical habitat.
2. The Jemez Mountains salamander (*Plethodon neomexicanus*) is uniformly dark brown above, with occasional fine gold to brassy coloring with stippling dorsally (on the back and sides) and is sooty gray ventrally (underside). The salamander is slender and elongate, and it possesses foot webbing and a reduced fifth toe. The Jemez Mountains salamander is restricted to the Jemez Mountains in northern New Mexico, in Los Alamos, Rio Arriba, and Sandoval Counties, around the rim of the collapsed caldera (large volcanic crater), with some occurrences on topographic features (e.g., resurgent domes) on the interior of the caldera. The majority of salamander habitat is located on federally managed lands, including the U.S. Forest Service (USFS), the National Park Service (Bandelier National Monument), Valles Caldera National Preserve, and Los Alamos National Laboratory, with some habitat located on tribal land and private lands. Wildland fires have significantly degraded important features of salamander habitat, including removal of tree canopy and shading, increases of soil temperature, decreases of soil moisture, increased pH, loss or reduction of soil organic matter, reduced soil porosity, and short-term creation of hydrophobic (water-repelling) soils. These and other effects limit the amount of available above ground habitat, and the timing and duration when salamanders can be active above ground, which negatively impacts salamander behavior (e.g., maintenance of water balance, foraging, and mating) and physiology (e.g., increased dehydration, heart rate and oxygen consumption, and increased energy demands). The permit does not authorize activities that may cause destruction of the Jemez Mountains salamander habitat, and issuance of the permit will have no effect on this species.
3. New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*): The 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 permit does not authorize activities that may cause destruction of the New Mexico Meadow Jumping Mouse habitat, and issuance of the permit will have no effect on this species.

4. 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. The Mexican wolf is at risk of extinction in the wild primarily because of gunshot-related mortality, inbreeding, loss of heterozygosity, loss of adaptive potential, small population size, and the cumulative effects of the threats. 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.
5. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.
6. The draft permit is consistent with the States WQS and does not increase pollutant loadings.
7. There is currently no information determining that the reissuance of this permit will have “effect” on the additional listed threatened and endangered species.

## IX. ENVIRONMENTAL JUSTICE

Executive Order 13985, *Advancing Racial Equity and Supporting for Underserved Communities through the Federal Government* signed on January 20, 2021, directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities.” The EPA strives to enhance the ability of overburdened communities to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits.

“Overburdened” communities can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, the EPA Region 6 will consider prioritizing enhanced public involvement opportunities for EPA-issued permits that may involve activities with significant public health or environmental impacts on already overburdened communities. For more information, please visit <http://www.epa.gov/ejscreen>.

As part of the Permit development process, the EPA conducted a screening analysis to determine whether this Permit action could affect overburdened communities. The EPA used EJScreen 2.1, a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify Permits for which enhanced outreach may be warranted.

The study area was chosen drawing a path 3-mile downstream of the facility following Glorieta Creek with a 3-mile radius around the path. The population of the study area is 2,257 (aged 5 and above). All twelve (12) Environmental Justice Indexes were well below the 80th percentile (80%). Furthermore, the ACS summary report indicates that 74% of the population in Glorieta study area are white (see Appendix 3). These results indicate that all the percentiles are well below the 80 percentile and most of the population speak English at home. From the EJSCREEN guidelines and trainings, this area will not be a concern for Environmental Justice issues at this time.

## 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 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.

## XII. VARIANCE REQUESTS

In the NPDES application submitted on April 3, 2023, facility requested a variance for Specific Conductance be added to the facility permit that would raise the limit to 850 us/cm or make specific conductance a report only for the next five years. Since the request is related to the revision of New Mexico Standards for Interstate and Intrastate Surface Waters 20.6.4 New Mexico Administrative Code (NMAC), EPA cannot grant the request and referred the permittee to work directly with NMED on the issue.

## 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 of COE, to the Regional Director of FWS 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 and 2S received on April 3, 2023.

### B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, 136

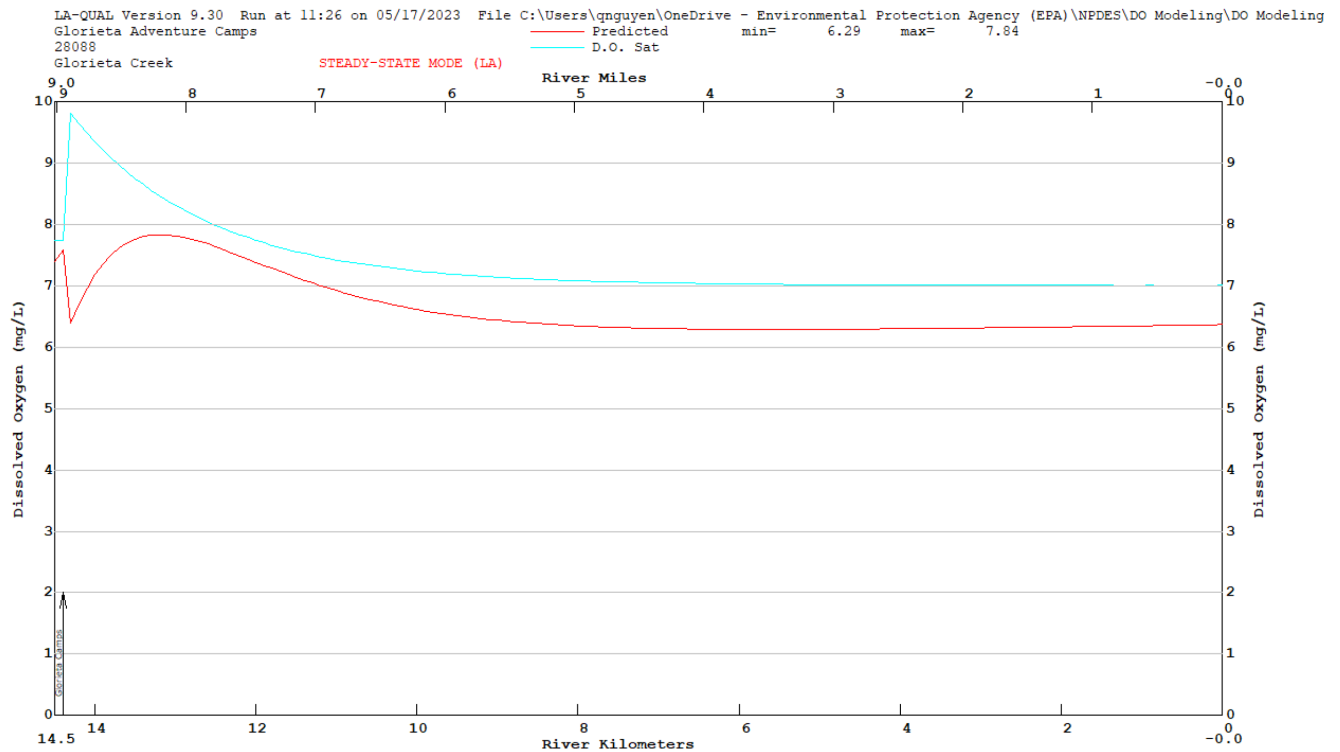
### C. STATE OF NEW MEXICO REFERENCES

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

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



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



## Appendix 2

Facility Name	Glorieta Adventure Camps							
NPDES Permit Number	NM0028088				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
Sep-19	100	100	1.00	1.00	100	100	1.00	1.00
Sep-20					100	100	1.00	1.00
Sep-21					100	100	1.00	1.00
Sep-22					100	100	1.00	1.00
	100	100	1.00	1.00	100	100	1.00	1.00
Count			69	69			4	72
Mean			1.000	1.000			1.000	1.000
Std. Dev.			0.000	0.000			0.000	0.000
CV			0.0	0			0.6	0
RPMF			#N/A	#N/A			2.6	#N/A
	1 Reasonable Potential Acceptance Criteria							
Vertebrate Lethal		No Reasonable Potential exists. Permit requires WET monitoring, but no						
Vertebrate Sublethal		No Reasonable Potential exists. Permit requires WET monitoring, but no						
Invertebrate Lethal	2.600	Reasonable Potential exists, Permit requires WET monitoring and WET limit.						
Invertebrate Sublethal		No Reasonable Potential exists. Permit requires WET monitoring, but no						
<p>EPA concludes that this effluent does not cause or contribute to an exceedance of the State water quality standards. Therefore WET limits will not be established in the proposed permit.</p>								

## Appendix 3



### EJSCREEN ACS Summary Report



Location: User-specified linear location  
 Ring (buffer): 3-miles radius  
 Description: Glorieta Camp

Summary of ACS Estimates		2016 - 2020	
Population		2,257	
Population Density (per sq. mile)		63	
People of Color Population		1,284	
% People of Color Population		57%	
Households		1,076	
Housing Units		1,256	
Housing Units Built Before 1950		117	
Per Capita Income		27,595	
Land Area (sq. miles) (Source: SF1)		36.08	
% Land Area		100%	
Water Area (sq. miles) (Source: SF1)		0.01	
% Water Area		0%	

	2016 - 2020 ACS Estimates	Percent	MOE (±)
<b>Population by Race</b>			
Total	2,257	100%	640
Population Reporting One Race	2,110	93%	902
White	1,677	74%	567
Black	9	0%	90
American Indian	3	0%	13
Asian	2	0%	13
Pacific Islander	0	0%	13
Some Other Race	419	19%	206
Population Reporting Two or More Races	148	7%	191
Total Hispanic Population	1,233	55%	571
Total Non-Hispanic Population	1,024		
White Alone	974	43%	265
Black Alone	9	0%	90
American Indian Alone	3	0%	13
Non-Hispanic Asian Alone	2	0%	13
Pacific Islander Alone	0	0%	13
Other Race Alone	0	0%	13
Two or More Races Alone	37	2%	191
<b>Population by Sex</b>			
Male	1,136	50%	401
Female	1,122	50%	321
<b>Population by Age</b>			
Age 0-4	49	2%	51
Age 0-17	300	13%	215
Age 18+	1,957	87%	339
Age 65+	588	26%	198

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020.

## Appendix 3 (cont.)



### EJSCREEN ACS Summary Report



Location: User-specified linear location  
 Ring (buffer): 3-miles radius  
 Description: Glorieta Camp

	2016 - 2020 ACS Estimates	Percent	MOE (±)
<b>Population 25+ by Educational Attainment</b>			
Total	1,789	100%	408
Less than 9th Grade	70	4%	117
9th - 12th Grade, No Diploma	134	7%	183
High School Graduate	425	24%	193
Some College, No Degree	400	22%	139
Associate Degree	162	9%	95
Bachelor's Degree or more	597	33%	220
<b>Population Age 5+ Years by Ability to Speak English</b>			
Total	2,209	100%	640
Speak only English	1,425	65%	329
Non-English at Home <sup>1+2+3+4</sup>	783	35%	451
<sup>1</sup> Speak English "very well"	580	26%	411
<sup>2</sup> Speak English "well"	121	5%	131
<sup>3</sup> Speak English "not well"	67	3%	71
<sup>4</sup> Speak English "not at all"	16	1%	34
<sup>3+4</sup> Speak English "less than well"	83	4%	78
<sup>2+3+4</sup> Speak English "less than very well"	204	9%	131
<b>Linguistically Isolated Households*</b>			
Total	58	100%	49
Speak Spanish	58	100%	47
Speak Other Indo-European Languages	0	0%	13
Speak Asian-Pacific Island Languages	0	0%	13
Speak Other Languages	0	0%	13
<b>Households by Household Income</b>			
Household Income Base	1,076	100%	206
< \$15,000	141	13%	66
\$15,000 - \$25,000	177	16%	183
\$25,000 - \$50,000	393	37%	197
\$50,000 - \$75,000	81	8%	62
\$75,000 +	284	26%	125
<b>Occupied Housing Units by Tenure</b>			
Total	1,076	100%	206
Owner Occupied	750	70%	199
Renter Occupied	326	30%	194
<b>Employed Population Age 16+ Years</b>			
Total	1,990	100%	447
In Labor Force	1,086	55%	321
Civilian Unemployed in Labor Force	137	7%	118
Not In Labor Force	904	45%	225

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)

\*Households in which no one 14 and over speaks English "very well" or speaks English only.

## Appendix 3 (cont.)



### EJSCREEN ACS Summary Report



Location: User-specified linear location  
 Ring (buffer): 3-miles radius  
 Description: Glorieta Camp

	2016 - 2020 ACS Estimates	Percent	MOE (±)
<b>Population by Language Spoken at Home*</b>			
Total (persons age 5 and above)	958	100%	447
English	413	43%	278
Spanish	512	53%	339
French, Haitian, or Cajun	0	0%	13
German or other West Germanic	0	0%	13
Russian, Polish, or Other Slavic	29	3%	86
Other Indo-European	0	0%	13
Korean	0	0%	13
Chinese (including Mandarin, Cantonese)	0	0%	13
Vietnamese	2	0%	9
Tagalog (including Filipino)	2	0%	9
Other Asian and Pacific Island	0	0%	13
Arabic	0	0%	13
Other and Unspecified	0	0%	13
Total Non-English	545	57%	526

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.  
 N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020.  
 \*Population by Language Spoken at Home is available at the census tract summary level and up.