Appendix B

Biological Resources Technical Memorandum

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April 29, 2025
Project No: 23-15293

Anthony Cemo, PE
Carollo Engineers
1401 Fulton Street, Suite 802
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Via email: acemo@carollo.com

Subject: Biological Resources Technical Memorandum for the City of Fresno Water and Sewer Improvements Project, Fresno County, California

Dear Anthony:

This Biological Resources Technical Memorandum documents the findings of a biological resources assessment conducted by Rincon Consultants, Inc. (Rincon), for the City of Fresno's Water and Sewer Improvements Project (project or proposed project), located in Fresno, California. Rincon biologists performed a desktop review and a field verification survey of the proposed project area to identify and characterize existing biological resources, to the extent possible, and determine the potential for special-status species and/or sensitive habitats (as defined by state and federal resource agencies) to occur. This memorandum serves to document the methods and results of the April 2025 biological field survey, describes potential biological resource constraints associated with project activities, and provides recommendations to address these constraints. The recommendations provided in this memorandum can be integrated into subsequent environmental documentation to ensure compliance with the California Environmental Quality Act (CEQA).

Project Location and Description

The project area is located in downtown Fresno and project activities would occur within the boundaries of Calaveras Street to the northwest, Van Ness Avenue to the east, East Grove Avenue to the southeast, and State Route (SR) 99 and SR 41 to the west (Attachment 1, Figure 1). The project area is in an urban location that has been previously graded, mostly paved, and developed, and is located entirely within the public roadway right-of-way.

The proposed project would involve 15,900 linear feet of waterline improvements and 13,400 linear feet of sewer rehabilitations. This includes removal, replacement, and installation of water mains and rehabilitation of sanitary sewer lines, sewer junction structures, and manholes. Removal and replacement of manholes requires excavations up to 16 feet wide. Replacement and rehabilitation of water and sewer lines requires a total of 19,909 feet of trenching. Non-trenching methods of pipe installation, such as auger bore and jack or pipe ramming, will be used to replace some pipes. Auger bore and jack or pipe ramming entry pits would be 20 feet by 40 feet and exit pits would be 20 feet by 20 feet. Entry and exit pits would be 12 feet deep. Construction personnel vehicles would be parked within the project area or identified staging areas, as needed. Staging areas are anticipated to occur within existing vacant parcels near or within the project area, with property owner's consent.

Methodology

Regulatory Overview

Protected biological resources studied and analyzed herein include special-status plant and wildlife species, nesting birds and raptors, sensitive natural plant communities, United States Fish and Wildlife Service (USFWS) designated critical habitat, jurisdictional waters and wetlands, wildlife movement corridors, and locally protected resources, such as protected trees.

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes.

Federal

- Federal Endangered Species Act
- Federal Clean Water Act (CWA); Section 401 and Section 404
- Migratory Bird Treaty Act
- The Bald and Golden Eagle Protection Act

State

- CEQA
- California Endangered Species Act
- California Fish and Game Code (CFGC); Sections 3503, 3511, 3513, 4150, 1600-1616
- Porter-Cologne Water Quality Control Act

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the *State CEQA Guidelines* Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or USFWS
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal areas, etc.) through direct removal, filling, hydrological interruption, or other means
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional or state habitat conservation plan

Literature Review

A desktop literature review was conducted prior to the field survey to determine sensitive biological resources that have been documented in or near the project area. Special-status plant and wildlife species and protected habitats that are present or potentially present within or adjacent to the project area were initially identified using the following sources:

- USFWS Information for Planning and Consultation (IPaC) Trust Resource Report (USFWS 2025a)
- CDFW California Natural Diversity Database (CNDDB) (CDFW 2025a)
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants (CNPS 2025)
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025)
- USFWS Critical Habitat Portal (2025b)
- USFWS National Wetland Inventory Wetland Mapper (2025c)
- CDFW Biogeographic Information and Observation System (CDFW 2025b)
- CDFW Special Animals List (2025c)

The CNDDB and CNPS database searches included the 7.5-minute United States Geological Survey *Fresno South* quadrangle and surrounding eight quadrangles (referred to as a "nine-quad search"). The IPaC search included the project area and a 1-mile buffer surrounding the project area. Following a review of these resources, Rincon also reviewed relevant life history information on those species documented as occurring in the region, including habitat type, soils, and elevation preferences.

The vegetation community/land cover type characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009), where applicable.

The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity Project commissioned by the California Department of Transportation and CDFW (Spencer et al. 2010).

Field Survey

The study area is defined in this assessment as the area within the public right-of-way where project activities will occur and a 50-foot buffer, as accessible (Attachment 1, Figure 2).Rincon biologist Alana Garza conducted a field reconnaissance survey on April 16, 2025. During the survey, temperatures ranged from 59 to 64 degrees Fahrenheit, wind speed ranged from 0–5 miles per hour, and cloud cover ranged from 20–100 percent. Wandering transects were walked throughout the study area, as accessible, on foot. The majority of the project area consists of industrial, commercial and residential development adjacent to SR 99 and SR 41.

During the field survey, Rincon conducted a constraints-level analysis for potentially jurisdictional wetlands and waters based on current and historic aerial photography signatures and field observations. The analysis was based on criteria provided by the following agencies:

- Waters of the U.S., including wetlands, under the jurisdiction of the United States Army Corps of Engineers, pursuant to Section 404 of the CWA
- Wetlands and Waters of the State under the jurisdiction of the Regional Water Quality Control Board, pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act
- Rivers, streams, or lakes under the jurisdiction of CDFW, pursuant to Section 1602 of the CFGC

Results

During the desktop review and field survey, Rincon evaluated the potential for sensitive biological resources to occur in and adjacent to the project area. This section provides details about the results of the assessment, discusses potential constraints to development of the project due to the presence of sensitive biological resources, and provides recommendations to address these potential constraints.

Physical Site Characteristics

The project area is located in the industrial and commercial area of downtown Fresno, which consists of paved streets, railroads, parking lots, and commercial and government buildings with ornamental vegetation. Elevations within the project area range from approximately 270–305 feet above mean sea level. Some staging areas are not paved; however, they lack vegetation.

Soils underlying the project area include Delhi loamy sand, 3–9 percent slopes; Hanford sandy loam; San Joaquin sandy loam, 0–3 percent slopes, MLRA 17; Hesperia fine sandy loam, deep; Madera loam; Greenfield sandy loam, moderately deep, 0–3 percent slopes; and Greenfield sandy loam 0–3 percent slopes. None of these soil types are on the USDA list of hydric soils and are therefore unlikely to support wetlands (USDA, NRCS 2025b).

Vegetation Communities and Land Cover Types

One vegetation community, wild oats and annual brome grasslands, was mapped in a portion of the study area; however, developed/disturbed land cover type is dominant throughout the project area (Attachment 1, Figure 3). This vegetation community and land cover type are discussed in more detail below.

Wild Oats and Annual Brome Grasslands

Wild oats and annual brome grasslands (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance) are generally found in open areas in valleys and foothills throughout coastal and interior California. They typically occur on soils consisting of fine-textured loams or clays that are somewhat poorly drained. Non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, dominate this vegetation type, likely as a result of human disturbance. Scattered native grasses and wildflower species representing remnants of the original vegetation community may also be common (Sawyer et al. 2009). This vegetation alliance is not considered sensitive due to the predominance of non-native species (CDFW 2025c).

Wild oats and annual brome grasslands occur in the southern portion of the study area adjacent to SR 99 and SR 41. The grasslands in these areas are degraded and are co-dominated by wild oats (*Avena* spp.), red brome (*Bromus rubens*), and ripgut brome (*B. diandrus*) (Attachment 1, Figure 3; Attachment 2).

Developed/Disturbed Land Cover Type

The developed/disturbed land cover type includes buildings, paved areas with little to no vegetation (e.g., paved roads), and other infrastructure. These areas lack habitat for sensitive biological resources as there is a high level of human disturbance and a lack of natural habitat types that would support breeding, cover, and foraging activities for special-status species. Developed/disturbed areas are present throughout most of the project area. Photos of the survey area are provided in Attachment 2.

Special-Status Species

For the purposes of this report, special-status species include:

- Species listed as threatened or endangered under the federal Endangered Species Act, including proposed and candidate species
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act
- Species designated as Fully Protected by the CFGC, and Species of Special Concern by CDFW
- CNPS California Rare Plant Ranks 1A, 1B, 2A and 2B

Special-status plant and wildlife species are discussed below in terms of CEQA thresholds of significance. A threshold of significance for a given environmental impact defines the level of effect above which the Lead Agency will normally consider impacts to be significant, and below which it will normally consider impacts to be less than significant. Lead Agencies are responsible for establishing the thresholds of significance for all documents they prepare. They can rely on several sources, including Appendix G of the *State CEQA Guidelines*; CEQA's mandatory findings of significance (*State CEQA Guidelines* Section 15065); thresholds established by regulatory agencies; thresholds provided in General Plans or other local planning documents; or thresholds established by other agencies (CEQA 2020).

A list of special-status plant and wildlife species with potential to occur near the project area is included in Attachment 3. Definitions regarding potential for species occurrence for this assessment are as follows:

- **Not Expected to Occur.** Habitat within and adjacent to the project area is lacking for the species' life history requirements (foraging, breeding, cover, range, elevation, hydrology, vegetation community, site history, and/or disturbance regime). There are no documented occurrences of the species in the larger vicinity of the project Area.
- **Low.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the project area is unsuitable or of poor quality. Because of this, the species is highly unlikely to be found within the project area. Any documented occurrences of the species are likely further than possible for the species to occur on the site, the date of the occurrence is several decades old, or the vicinity of the project area has been developed in a manner that likely precludes the species from presently occurring.
- **Moderate.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the project area is unsuitable. There are recently documented occurrences in the near vicinity of the project area; therefore, the species has a moderate probability of using the site.
- **High.** All the habitat components meeting the species requirements are present, and/or most of the habitat on or adjacent to the project area is highly suitable. There are documented occurrences of the species on or immediately adjacent to the project area; therefore, the species has a high probability of using the project area.
- **Present.** Species was observed within the project area during field surveys or has been recorded (i.e., CNDDB, or other source) within the project area recently.

Based on these definitions, there would be no impact or less-than-significant impacts to species that are not expected to occur or that have a low potential to occur in the project area. As such, these species are removed from further consideration and recommendations to avoid impacts to these species are not included in this document. Species with a moderate or greater potential to occur are

discussed below, and recommendations to avoid and minimize impacts to these species are provided at the end of this document.

Special-Status Plant Species

Results of the IPaC, CNDDB, and CNPS searches identified 11 special-status plant species known to occur within the nine-quad search radius of the project area (CDFW 2025a, USFWS 2025a, CNPS 2025). None of these 11 special-status plant species are expected to occur in the project area, as the site is mostly developed/disturbed or degraded. Impacts to special-status plants are not expected and no further actions are recommended.

Special-Status Wildlife Species

Results of the CNDDB and IPaC searches returned 29 special-status wildlife species known to occur within the nine-quad search radius of the project Area (CDFW 2025a, USFWS 2025a). None of these species are expected to occur in the project area due to the high level of development and disturbance, as well as a lack of suitable habitat. As such, project impacts to special-status wildlife species are not expected and no further actions are recommended.

Native Nesting Birds

While common native bird species are not designated as special-status species, destruction of their eggs, nests, and/or young is prohibited by federal and state laws. Section 3503.5 of the CFGC specifically protects birds of prey, and their nests and eggs against take, possession, or destruction. The federal Migratory Bird Treaty Act also prohibits the destruction of active nests of native migratory birds.

The project area contains ornamental trees and shrubs which may provide nesting habitat for native passerines and common raptors. Corvids, like American crows (*Corvus brachyrhynchos*), may nest on telephone and power poles in the survey area, and ground nesting species, such as killdeer (*Charadrius vociferus*), may also be found throughout the project area.

The presence of active nests in the project area could constrain the timing and duration of the project, as construction activities that would negatively impact these nests, including increased noise, dust, and human disturbance.

Recommendation to Address Nesting Birds

If project-related activities occur during the avian nesting season (February 1 to August 31), a preconstruction nesting bird survey should be performed by a qualified biologist within the disturbance footprint plus a 100-foot buffer (250 feet for raptors), where feasible, and no more than one week prior to initiation of ground disturbance and/or vegetation removal activities. If the proposed project is phased or construction activities stop for more than one week, a subsequent preconstruction nesting bird survey would be required prior to each phase of construction.

If any active nests are observed during surveys, a suitable avoidance buffer from the nests should be determined by a qualified biologist based on species, location, and extent and type of planned construction activity. These nests would be avoided until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. If no nesting birds are observed during preconstruction surveys, no further actions would be necessary.

Sensitive Vegetation Communities

Vegetation communities are considered sensitive if they have limited distributions, have high wildlife value, include special-status species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's methodology (2025), with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive, though there are some exceptions.

The project area does not contain any sensitive natural vegetation communities. Therefore, no further actions are recommended.

United States Fish and Wildlife Service Designated Critical Habitat

Critical habitat is a term defined and used in the federal Endangered Species Act to specify geographic areas that contain features essential to the conservation of an endangered or threatened species, and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for recovery of the species.

The project area is not within critical habitat limits for any federally listed species; therefore, no further actions are recommended.

Potentially Jurisdictional Waters and Wetlands

In accordance with Section 1602 of the CFGC, CDFW has jurisdiction over lakes and streambeds (including adjacent riparian resources). CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake. Under Section 404 of the CWA, the United States Army Corps of Engineers has authority to regulate activities that discharge dredge or fill material into wetlands or other "waters of the United States" through issuance of a Section 404 Permit. Finally, the Regional Water Quality Control Board has jurisdiction over "waters of the state" pursuant to the Porter-Cologne Water Quality Control Act and has the responsibility for review of the project water quality certification per Section 401 of the federal CWA. In addition, Executive Order 11990 directs federal agencies to avoid adverse impacts to wetlands.

A freshwater pond is mapped in the National Wetland Inventory on the north corner of the intersection of Inyo Street and H Street (USFWS 2025c); however, the pond is no longer present due to the construction of Chukchansi Park.

Although a formal aquatic resource delineation was not performed during the field survey, no potentially jurisdictional waters or wetlands were observed in the project area. As a result, no impacts to jurisdictional resources are expected and no further actions are recommended.

Wildlife Movement Corridors

Wildlife corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network (Spencer et al. 2010).

There are no wildlife movement corridors mapped within the project site, and the closest wildlife movement corridor is mapped over 10 miles northwest of the project area (CNDDB 2025b). Therefore, no impacts to wildlife movement corridors are expected and no further actions are recommended.

Resources Protected by Local Policies and Ordinances

Fresno General Plan

The Fresno General Plan (2014) was reviewed and biological resources goals and policies in the General Plan are not relevant to the proposed project due to the developed nature of the project area.

Habitat Conservation Plans

The project is not subject to an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, no further actions are recommended.

Limitations, Assumptions, and Use Reliance

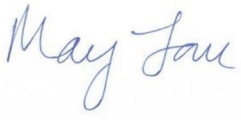
This Biological Resources Technical Memorandum has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

Thank you for the opportunity to provide this memo. Please contact the undersigned with any questions.

Sincerely,
Rincon Consultants, Inc.



Lisa Achter
Senior Biologist



May Lau
Principal, Natural Resources

Attachments

Attachment 1 Figures
Attachment 2 Site Photographs
Attachment 3 Special-Status Plant and Wildlife Species Potential-to-Occur Tables

References

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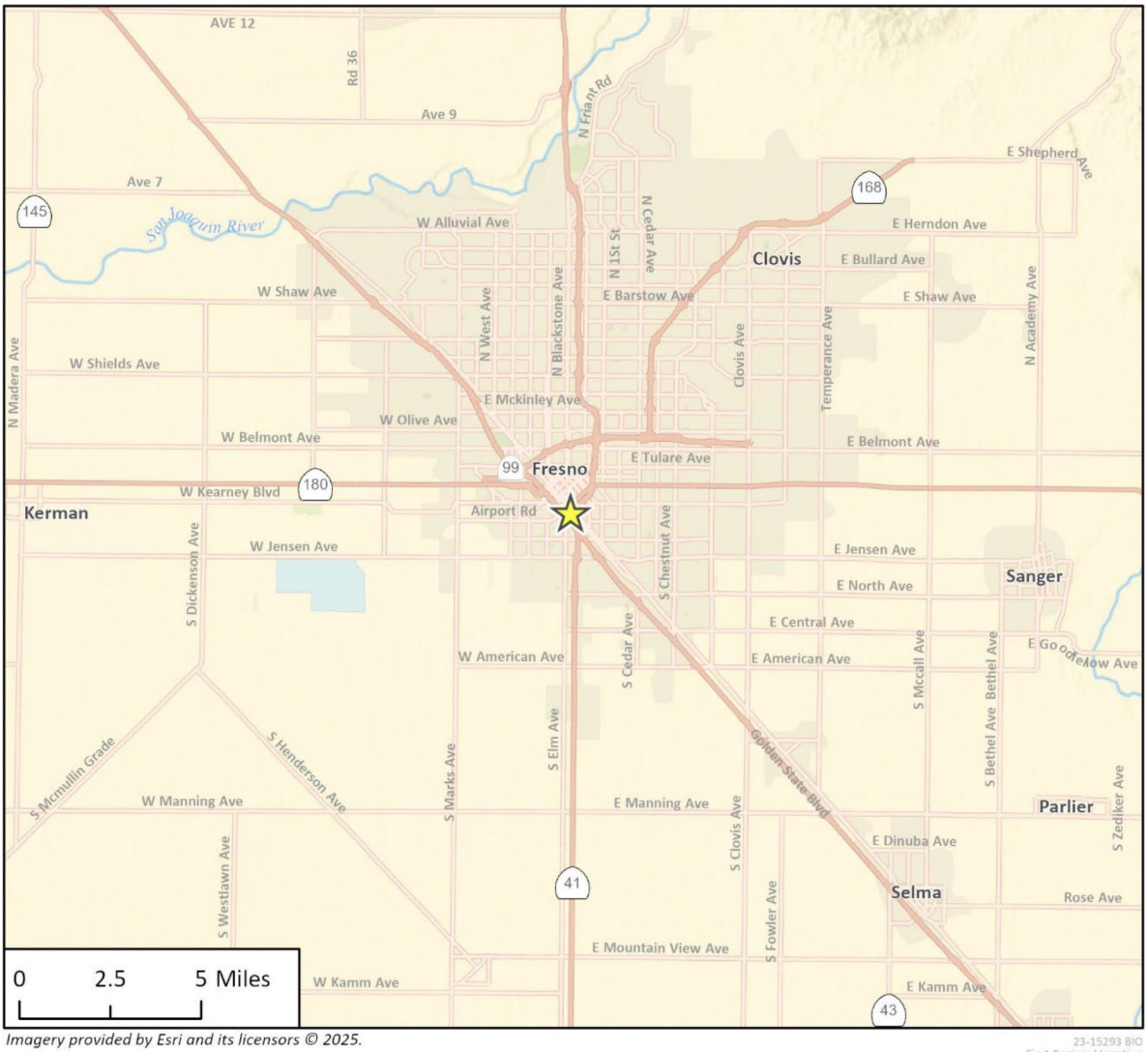
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Attachment 1

Figures

Figure 1 Project Site Location



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Fig 1 Regional Location

Project Location

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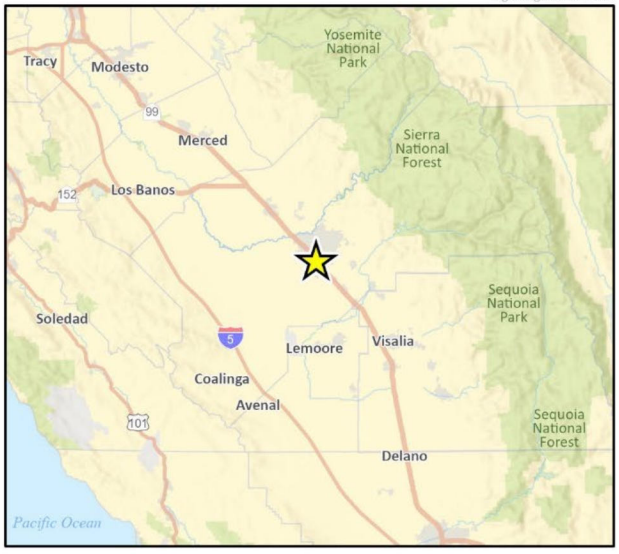
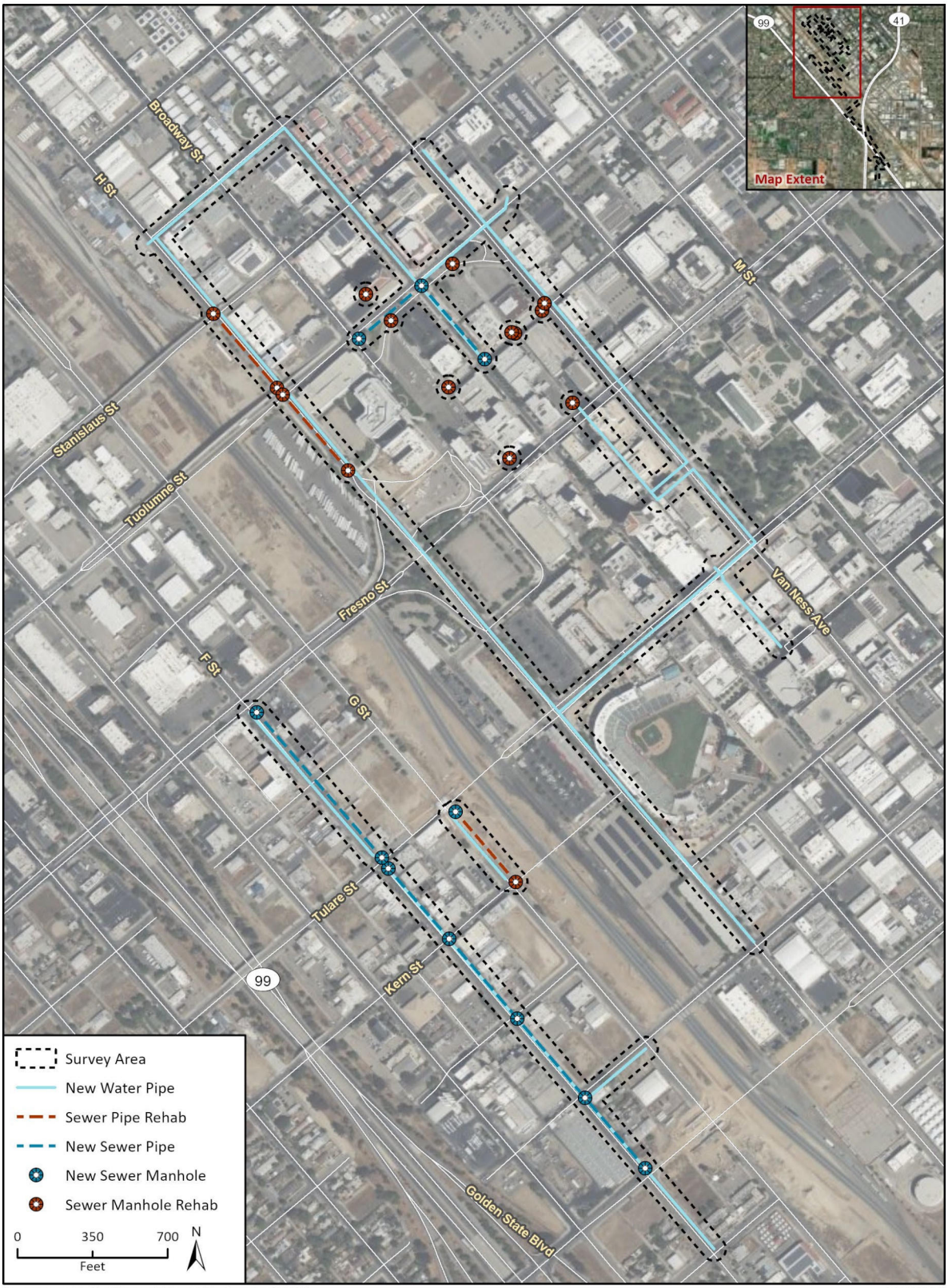


Figure 2a Project Area



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Fig 2a Project Location

Figure 2b Project Area



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Fig 2b Project Location

Figure 3a Vegetation Communities and Land Cover Types



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Fig X Vegetation_1

Figure 3b Vegetation Communities and Land Cover Types



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Fig X Vegetation_2

Attachment 2

Site Photographs



Photograph 1. Cherry Avenue at Grove Avenue, facing north.



Photograph 2. Cherry Avenue at Church Avenue, facing south.



Photograph 3. Church Avenue west of Cherry Avenue, facing west.



Photograph 4. Cherry Avenue east of SR 99, facing southeast.



Photograph 5. Wild oat and annual brome grassland along Rose Avenue east of SR 41, facing north.



Photograph 6. Lorena Avenue west of Rose Avenue and east of SR 41, facing west.



Photograph 7. Wild oat and annual brome grassland along Lotus Avenue south of California Avenue, facing southeast.



Photograph 8. Van Ness Avenue southeast of Tuolumne Street, facing northwest.



Photograph 9. Tuolumne Street and Fulton Street intersection, facing east.



Photograph 10. G Street southeast of Tulare Street, facing southeast.



Photograph 11. H Street northwest of Tulare Street, facing northwest.



Photograph 12. H Street and Tulare Street intersection, facing southeast.

Attachment 3

Special-Status Plant and Wildlife Species Potential-to-Occur Tables

Special-Status Plant Species with Known or Potential Occurrence near the City of Fresno Water and Sewer Improvements Project in Fresno County, California

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Atriplex minuscula lesser saltscale	None/None 1B.1	Annual herb. Chenopod scrub, playas, valley and foothill grassland. Alkaline, sandy. Elevations: 50-655 feet. Blooms May-Oct.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Castilleja campestris var. *succulenta* succulent owl's-clover	FT/SE 1B.2	Annual herb (hemiparasitic). Vernal pools. Moist places, often in acidic soils. Elevations: 165-2,460 feet. Blooms (Mar) Apr-May.	Not expected	Suitable vernal pool habitat is not present in or adjacent to the project area.
Caulanthus californicus California jewelflower	FE/SE 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. Elevations: 200-3,280 feet. Blooms Feb-May.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Eriastrum hooveri Hoover's eriastrum	FD/None 4.2	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. On sparsely vegetated alkaline alluvial fans; also in the Temblor Range on sandy soils. Elevations: 165-3,000 feet. Blooms Mar-Jul.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Imperata brevifolia California satintail	None/None 2B.1	Perennial rhizomatous herb. Chaparral, coastal scrub, meadows and seeps, mojavean desert scrub, riparian scrub. Mesic sites, alkali seeps, riparian areas. Elevations: 0-3,985 feet. Blooms Sep-May.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Lasthenia chrysantha alkali-sink goldfields	None/None 1B.1	Annual herb. Vernal pools. Alkaline. Elevations: 0-655 feet. Blooms Feb-Apr.	Not expected	Suitable vernal pool habitat is not present in or adjacent to the project area.
Leptosiphon serrulatus Madera leptosiphon	None/None 1B.2	Annual herb. Cismontane woodland, lower montane coniferous forest. Dry slopes; often on decomposed granite in woodland. Elevations: 985-4,265 feet. Blooms Apr-May.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Orcuttia inaequalis San Joaquin Valley Orcutt grass	FT/SE 1B.1	Annual herb. Vernal pools. Elevations: 35-2,475 feet. Blooms Apr-Sep.	Not expected	Suitable vernal pool habitat for this species is not present within or adjacent to the project area.
Orcuttia pilosa hairy Orcutt grass	FE/SE 1B.1	Annual herb. Vernal pools. Elevations: 150-655 feet. Blooms May-Sep.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Sagittaria sanfordii Sanford's arrowhead	None/None 1B.2	Perennial rhizomatous herb (emergent). Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. Elevations: 0-2,135 feet. Blooms May-Oct (Nov).	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Tuctoria greenei Greene's tuctoria	FE/SR 1B.1	Annual herb. Vernal pools. Vernal pools in open grasslands. Elevations: 100-3,510 feet. Blooms May-Jul (Sep).	Not expected	Suitable vernal pool habitat for this species is not present within or adjacent to the project area.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FC = Federal Candidate
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (Review List)
4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Special-Status Wildlife Species with Known or Potential Occurrence in the Vicinity of the City of Fresno Water and Sewer Improvements Project in Fresno County, California

Common Name Scientific Name	Status Fed/State	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
Crotch's bumble bee *Bombus crotchii*	None/SCE	Crotch's bumble bee habitat requirements include availability of suitable colony nesting sites, floral resources to obtain nectar and pollen throughout the duration of the colony period (spring, summer and fall), and suitable overwintering sites for queens. Most bumble bees are primitively eusocial insects that live in colonies composed of a queen, workers, and, near the end of the season, reproductive members of the colony (new queens, or gynes, and males). Nest sites typically include underground cavities, wood or rock piles, brush piles, and other cavities on open west-southwest slopes bordered by trees. Little is known about hibernacula or overwintering sites.	Not expected	Suitable foraging and nesting habitat for this species is not present within or adjacent to the project area.
monarch – California overwintering population *Danaus plexippus*	FPT/None	Monarch adults make massive, multi-generation migrations from spring to fall, flying thousands of miles to breed along the California coast and central Mexico. Monarchs stop to feed on flower nectar and to roost together at night. During warm winter days, the butterflies may take moisture and flower nectar. Most mating happens before they journey north in the spring, when females lay single eggs along the way under host plant (milkweed, *Asclepias* sp.) leaves; caterpillars eat flowers and leaves. Overwintering sites along the California coast are important for conservation of this species.	Not expected	Overwintering sites and milkweed for this species are not present within or adjacent to the project area.
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/None	Valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (*Sambucus* sp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems of the plant and the larval stage lasts for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.	Not expected	Elderberry shrubs are not present within or adjacent to the project area.
vernal pool fairy shrimp *Branchinecta lynchi*	FT/None	Vernal pool fairy shrimp is adapted to seasonally inundated aquatic features and occur primarily in vernal pools and seasonal wetlands that fill with water during fall and winter rains, then dry up in spring and summer. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years.	Not expected	Suitable aquatic habitat for this species is not present within or adjacent to the project area.
Amphibians				
California tiger salamander - central California DPS *Ambystoma californiense* pop. 1	FT/ST	California tiger salamander (CTS) may be found in riparian and wet meadow habitats, but is more common in annual grasslands. Temporary or permanent freshwater pools (e.g. vernal pools and wetlands) are required for egg-laying and larval development; however, they appear to be absent in waters containing predatory game fish. CTS spends most of its life cycle underground in adjacent valley oak woodland or grassland habitat, primarily in rodent burrows. Breeding takes place following the first heavy winter rains.	Not expected	Suitable aquatic and upland habitat for this species is not present within or adjacent to the project area.
western spadefoot *Spea hammondii*	FPT/None SSC	Western spadefoot inhabits areas with slightly moist, friable soils in mostly treeless habitats. They are usually absent from narrow canyons and highly mesic habitats and require rain pools with little to no vegetation for spawning.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Reptiles				
blunt-nosed leopard lizard *Gambelia sila*	FE/SE	Blunt-nosed leopard lizard occurs in semi-arid grasslands, alkali flats, and washes in the San Joaquin Valley and surrounding valleys and foothills. It is diurnal species that uses mammal dens and burrows for shelter and cover and breeds from May to June.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
California glossy snake *Arizona elegans occidentalis*	None/None SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
coast horned lizard *Phrynosoma blainvillii*	None/None SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
giant gartersnake *Thamnophis gigas*	FT/ST	Giant gartersnake is found in isolated populations restricted to the Central Valley of California. It is found in freshwater marshes, wetlands, irrigation ditches, low gradient streams (absent of predatory fish), and rice fields containing emergent vegetation. Adjacent upland grassland habitat is necessary for cover and aestivation.	Not expected	Suitable aquatic and upland habitat for this species is not present within or adjacent to the project area.
Northern California legless lizard *Anniella pulchra*	None/None SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.

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northwestern pond turtle *Actinemys marmorata*	FPT/None SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. Occurs in southern California from Monterey County south to Los Angeles, Riverside, and San Diego Counties into northern Baja California, Mexico.	Not expected	Suitable aquatic habitat is not present within or adjacent to the project area.
Birds				
bald eagle *Haliaeetus leucocephalus*	BGEPA/ SE, FP	Bald eagle lives near large and small bodies of open water such as lakes, ponds, marshes, estuaries, seacoasts and rivers where fish are abundant. It usually nests in tall trees with open branch work bordering lakes or large rivers. In Central California, bald eagles prefer foothill pines for nesting. Bald eagles typically nest within 1-2 miles of a water source for foraging.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	None/SE	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
black tern *Childonias niger surinamenisis*	None/None SSC	Freshwater lakes, ponds, marshes and flooded agricultural fields. At coastal lagoons and estuaries during migration. Breeding range reduced. Breeds primarily in Modoc Plateau region, with some breeding in Sacramento and San Joaquin valleys.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
burrowing owl *Athene cunicularia*	None/SCE SSC	Burrowing owl utilizes abandoned ground squirrel burrows in open habitats, grasslands, and disturbed areas, typically on levees, mounds or areas where there are unobstructed views of possible predators such as raptors or foxes. Prey items include insects, small mammals, reptiles and amphibians.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Channel Island song sparrow *Melospiza melodia graminea*	None/None SSC	Currently known from San Miguel and Santa Rosa Islands; believed extirpated from Santa Barbara and San Clemente Islands. Need moderately dense scrubby vegetation for nesting, a water source, and exposed ground for foraging. Dense shrubs and thickets of Giant Coreopsis (*C. gigantea*) and/or dense grasslands with scattered shrubs. Nests often located on leeward side of shrubs avoiding prevailing winds.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
golden eagle *Aquila chrysaetos*	None/SE FP	Golden eagle is found in open country, including mountains, foothills, and plains. In the west, they are found over prairie, rangeland, or desert. They are very wide-ranging in winter, and more restricted to areas with good nest sites in summer, which consist of cliff ledges or large trees.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
least Bell's vireo *Vireo bellii pusillus*	FE/SE	Least Bell's vireo primarily occupies riverine riparian habitats, including dry portions of intermittent streams that typically provide dense cover within 3-6 feet of the ground, often adjacent to a complex, stratified canopy. Least Bell's vireo prey items include bugs, beetles, grasshoppers, moths, spiders, and caterpillars. They glean insects from leaves, twigs, and branches by hovering and picking prey off these stationary objects, and also utilize aerial pursuit.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
northern harrier *Circus hudsonius*	None/None SSC	Northern harrier utilizes marshes, fields, and prairies. It is found in many kinds of open terrain, in both wet and dry habitats where there is good ground cover. It is often found in marshes, especially in nesting season, but sometimes it will nest in dry open fields. It usually hunts by flying low over fields, scanning the ground.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	None/None SSC	Saltmarsh common yellowthroat remains locally numerous in areas where extensive wetlands with adjacent riparian thickets remain. In brackish and saline tidal marsh habitat around San Francisco Bay, yellowthroats prefer habitats consisting of rushes (Scirpus spp.), peppergrass (Leipidium latifolium), and Juncus.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Swainson's hawk *Buteo swainsoni*	None/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires suitable foraging areas within 12 miles of nest sites, such as grasslands, or alfalfa or grain fields supporting rodent populations.	Low	Although there are suitable nest trees in the vicinity of the project area and suitable foraging habitat for this species just west of Fresno, documented occurrences of this species in Fresno County are highly concentrated west of the project area along the San Joaquin River. There is one documented occurrence of this species in the project area from 1956, which was before the area was heavily urbanized. The next nearest documented occurrence of this species is approximately 3 miles southeast of the project area on the western edge of Fresno. The developed and urbanized nature of the project area likely precludes this species from occurring, as there is highly suitable habitat west of the project area.
tricolored blackbird *Agelaius tricolor*	None/ST SSC	Tricolored blackbird is a colonial species found almost exclusively in California. It utilizes wetlands, marshes and agricultural grain fields for foraging and nesting. The tricolored blackbird population has declined significantly in recent years due to habitat loss and harvest of grain fields before young have fledged.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/SE	Nests in riparian forest along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with a lower story of blackberry, nettles, or wild grape.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.

Common Name Scientific Name	Status Fed/State	Habitat Requirements	Potential to Occur	Rationale
Mammals				
American badger *Taxidea taxus*	None/None SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
Fresno kangaroo rat *Dipodomys nitratoides exilis*	FE/SE	Alkali sink-open grassland habitats in western Fresno County. Bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
pallid bat *Antrozous pallidus*	None/None SSC	Pallid bat occupies a variety of habitats including grassland, shrubland, woodland and forests from sea level up through mixed conifer forest. Roosts in caves, mines, crevices and occasionally hollow trees or buildings. Prefers open habitats for foraging.	Not expected	There is one documented occurrence of this species in downtown Fresno from 1909. All other documented occurrences in Fresno County are concentrated along the San Joaquin River in the Sierra National Forest to the east or in the Diablo Range to the west. The high level of disturbance in the project area and lack of foraging habitat likely precludes this species from occurring.
San Joaquin kit fox *Vulpes macrotis mutica*	FE/ST	San Joaquin kit fox occurs in grasslands and agricultural areas along the edges of the San Joaquin Valley. It uses dens created by other mammals, as well as larger pipes and culverts for cover. It is primarily a nocturnal species and feeds on small mammals, birds and reptiles.	Not expected	Suitable habitat for this species is not present within or adjacent to the project area.
western mastiff bat *Eumops perotis californicus*	None/None SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	Not expected	Suitable foraging habitat for this species may be present within or adjacent to the Project Area. However, suitable roosting habitat is not present. The nearest documented occurrence is approximately 2.69 miles south of the Project Area from 1933. This species is sensitive to human disturbance.

Status (Federal/State)

DPS =	Distinct Population Segment	FP =	CDFW Fully Protected	SC =	State Candidate	SE =	State Endangered
FC =	Federal Candidate	FPE =	Federal Proposed Endangered	SCE =	State Candidate Endangered	SR =	State Rare
FD =	Federal Delisted	FPT =	Federal Proposed Threatened	SCT =	State Candidate Threatened	SSC =	CDFW Species of Special Concern
FE =	Federal Endangered	FT =	Federal Threatened	SD =	State Delisted	ST =	State Threatened