

# BIOLOGICAL ANALYSIS REPORT

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## **ELMER F. KARPE DEVELOPMENT, INC. KARPE DEVELOPMENT PROJECT GPA/ZC 19-0292**



OCTOBER 2019



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## **ACRONYMS AND ABBREVIATIONS**

BAR	Biological Analysis Report
BIOS	Biogeography Information and Observation System
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWHR	California Wildlife Habitat Relationships
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
gal	Gallon
MBGP	Metropolitan Bakersfield General Plan
MBHCP	Metropolitan of Bakersfield Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## EXECUTIVE SUMMARY

The proposed Karpe Development Project (Project) is the construction of a truck stop to service motorists and professional truck drivers associated with traffic from State Route (SR) 99. The Project is located on approximately 18 acres of previously disturbed lands within the City of Bakersfield, Kern County, California. As proposed, the Project will develop a convenience store with attached fast food establishment, fueling stations, an automotive maintenance building, truck scales, storm water retention basin, and other associated infrastructure. The Project will require a General Plan Amendment and Zone Change from the City of Bakersfield Planning Division (City), Case Number GPA/ZC 19-0292.

This Biological Analysis Report (BAR) provides information about the natural resources currently existing on and surrounding the Project site, which could influence the decision-making process. Information on sensitive natural communities and special-status plant and wildlife species that are known or have potential to occur on the Project site and nearby areas is based upon available database research and data collected during an on-site field survey. This BAR is designed to support evaluation of the Project pursuant to the California Environmental Quality Act (CEQA), project permitting through regulatory agencies, and other related uses. As lead agency, the City will use this BAR to support the preparation of an Initial Study to determine the impacts of the Project. The Project is within the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) and associated State Incidental Take Permit (ITP) area, thus specific surveys for selected federal and State listed species covered by that plan and ITP must be conducted and associated protection measures must be implemented. Those are identified in this BAR where appropriate.

Reviews of agency-maintained databases were conducted to determine the potential presence of sensitive biological resources and special-status species. The results indicated that 15 special-status plant species and 30 special-status wildlife species have the potential to occur within the vicinity of the Project. A reconnaissance-level field survey was conducted to identify sensitive biological resources on-site and to document the suitability of the habitat on the Project to support special-status species. No sensitive natural plant communities occur on the Project. No special-status plant species were observed on the Project site. One special-status wildlife species was identified on the site; San Joaquin kit fox (*Vulpes macrotis mutica*).

Reviews of the databases and the site visit confirmed that there are no defined waters or wetlands on or near the Project site. There are no designated migratory corridors or linkages, significant nursery sites, fisheries resources, or designated Critical Habitat that occur on the Project site.

The Project has potential to impact San Joaquin kit fox, American badger (*Taxidea taxus*), western burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), as well as other nesting migratory birds and raptors that are protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. If the suggested mitigation measures are followed, the Project would have a ***less than significant*** impact to biological resources.

## **SECTION 1 - INTRODUCTION**

QK prepared this Biological Analysis Report (BAR) to evaluate the potential of sensitive biological resources to be impacted by the proposed Karpe Development Project (Project). The Project, as proposed, would include the construction of a convenience store, fueling stations, and fuel storage tanks, among other components.

### ***1.1 - Project Location***

The Project site is at the southern boundary of the City of Bakersfield, California, just within City limits, on assessor's parcel numbers (APN) 517-030-05 and 517-030-08 (Figures 1-1 and 1-2). The Project is located on the northeast corner of the intersection of Taft Highway [State Route (SR) 119] and South "H" Street, approximately 0.1 mile east of SR 99. The Project is within U.S. Geological Survey (USGS) Quadrangle Gosford, Section 31, Township 30 south, Range 28 east, Mount Diablo Base and Meridian.

### ***1.2 - Project Description***

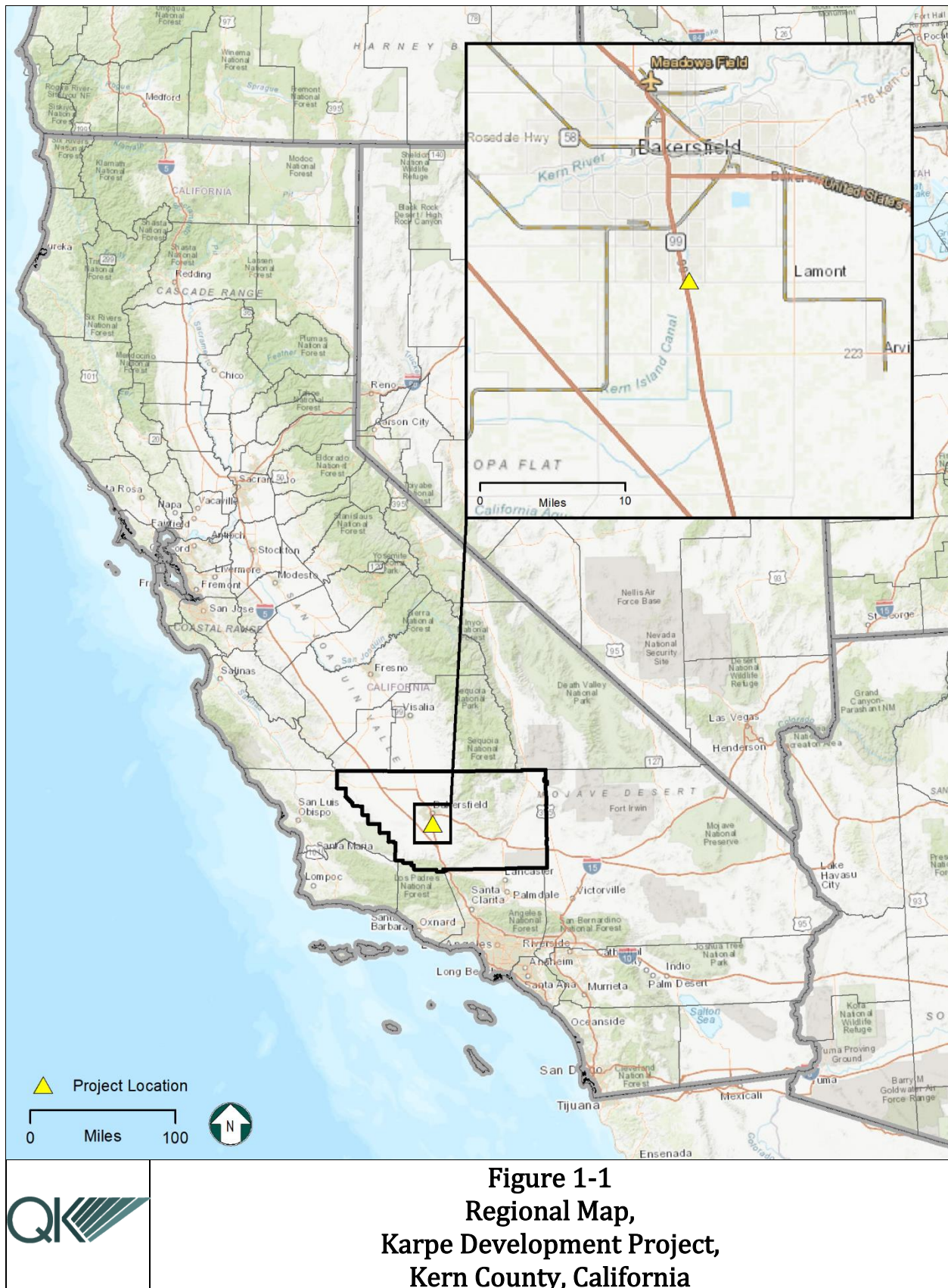
The Project, which will cover approximately 18 acres, consists of constructing and operating a truck stop to service motorists and professional truck drivers using SR 99. The Project incorporates several components, including:

- A convenience store with an attached fast food establishment;
- Fueling stations;
- Above- and below-ground fuel storage tanks;
- An automotive maintenance building;
- A truck scale;
- A sanitary dump station;
- A fenced dog park;
- A storm water retention basin;
- Paved parking areas;
- And other associated infrastructures.

### ***1.3 - Purpose, Goals, and Objectives***

The purpose of this BAR is to identify where sensitive biological resources may occur within and near the Project site, determine how those resources may be impacted by the proposed Project, and recommend avoidance, minimization, and mitigation measures to reduce potential impacts to a less than significant level. This BAR has been prepared to support an analysis of biological conditions as required by the California Environmental Quality Act (CEQA), and to support regulatory permit applications, if needed.









## SECTION 2 - METHODS

### 2.1 - Definition of Biological Study Area

The Biological Study Area (BSA) used for this BAR includes everything within the limits of the Project boundary and within a 250-foot buffer (see Figure 1-2).

### 2.2 - Definition of 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 (FESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the project,
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA),
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW),
- Other species included on the CDFW's Special Animals List,
- Plant species with a California Rare Plant Rank (CRPR) in categories 1 or 2,
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy.

The potential for each special-status species to occur in the study area was evaluated according to the following criteria:

- **None.** Habitat on and adjacent to the site is clearly unsuitable to meet the needs of the species (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Potential.** Conditions on the site may, in some way, support a portion of the species ecology (foraging, reproduction, movement/migration). Protocol surveys were conducted, but negative results do not exclude the potential for a species to occur.
- **Present.** Species was observed on the site or has been recorded (e.g., California Natural Diversity Database records, other reports) on the site recently (within the last 5 years).

### 2.3 - Literature Review and Database Analysis

The following sources were reviewed for information on special-status biological resources in the project vicinity:

- CDFW's California Natural Diversity Database (CNDDDB; CDFW 2019a; CDFW 2019b)
- CDFW's Biogeographic Information and Observation System (BIOS; CDFW 2019c)

- CDFW's California Wildlife Habitat Relationships (CWHR) System (Mayer and Laudenslayer 1988)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2019)
- Calflora (Calflora 2019)
- U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) system (USFWS 2019a)
- USFWS Critical Habitat Mapper (USFWS 2019b)
- USFWS National Wetlands Inventory (NWI; USFWS 2019c)
- USGS National Hydrography Dataset (NHD; USGS 2019)
- Federal Emergency Management Agency (FEMA) flood zone maps (FEMA 2019)
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2019a)
- NRCS Lists of Hydric Soils (NRCS 2019b)
- Current and historical aerial imagery (Google LLC 2019)
- Topographic maps (USGS 2019)

For each of these data sources, the search was focused on the California USGS 7.5-minute quadrangle *Gosford*, in which the project is located, plus the surrounding eight quadrangles: *Rosedale*, *Oildale*, *Oil Center*, *Lamont*, *Weed Patch*, *Conner*, *Millux*, and *Stevens*. For the CNDDDB, a 10-mile search radius was used.

The CNDDDB provides element-specific spatial information on individually documented occurrences of special-status species and sensitive natural communities. Some of the information available for review in the CNDDDB is still undergoing review by the CDFW; these records are identified as unprocessed data. The CNPS database provides similar information as the CNDDDB, but at a much lower spatial resolution. Much of this information in these databases is obtained opportunistically and is often focused on protected lands or on lands where development has been proposed. Neither database represents a comprehensive survey for special-status resources in the region. As such, the absence of recorded occurrences in these databases at any specific location does not preclude the possibility that a special-status resource could be present. The NWI and Web Soil Survey provide comprehensive data, but at a low-resolution requiring confirmation in the field. The IPaC system provides a list of federally listed and candidate species with potential to occur on the Project, even if they have not been documented nearby.

The results of the database inquiries were reviewed to develop a list of special-status resources that may be present within vicinity of the Project. This list was then evaluated against the existing conditions observed during the reconnaissance site visit of the BSA to determine which special-status resources have the potential to occur, and then the potential for impacts to those resources as a result of implementation of the Project.

## **2.4 - Reconnaissance-Level Field Survey**

A reconnaissance survey of the BSA was conducted on September 26, 2019, by QK Associate Biologist Shannon Gleason. The survey consisted of meandering pedestrian transects spaced 50 to 100 feet apart throughout the entire Project and the 250-foot buffer, where feasible. Portions of the buffer fell within private property and these areas were visually surveyed with the aid of binoculars, to achieve 100% visual coverage of the BSA.

General tasks completed during the survey included: an inventory of plant and animal species observed; characterization of vegetation associations and habitat conditions within the BSA; assessment of the potential for federally and state-listed and special-status plant and wildlife species to occur on and near the Project; and assessment for migratory birds and raptors to nest on and near the Project. All locational data was recorded using ESRI Collector for ArcGIS software installed on an iPad and site conditions were documented with representative photographs.

## **SECTION 3 - REGULATORY SETTING**

Regulated or sensitive resources that were studied and analyzed include special-status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement areas, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the City of Bakersfield).

Potential impacts to biological resources were analyzed based on the following list of statutes. Summaries of these statutes are provided in Appendix A.

- CEQA
- FESA
- CESA
- Federal Clean Water Act
- California Fish and Game Code
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- San Joaquin Valley Upland Species Recovery Plan
- Metropolitan Bakersfield General Plan
- Metropolitan Bakersfield Habitat Conservation Plan (MBHCP)

## SECTION 4 - ENVIRONMENTAL SETTING

This section identifies the regional and local environmental setting of the Project and describes existing baseline conditions. The environmental setting of the BSA was obtained from various sources of literature, databases, and aerial photographs. Site conditions were verified and updated during the site reconnaissance survey conducted by a QK biologist (Table 4-1).

**Table 4-1**  
**Field Survey Personnel and Timing**

Date	Personnel	Time	Weather Conditions	Temperature
September 26, 2019	Shannon Gleason	0915 - 1305	Partly cloudy	83 – 93 °F

### **4.1 - Physical Characteristics**

The Project is situated in a region dominated by agricultural and urban development on the southern San Joaquin Valley floor. Land within the Project boundary is zoned for commercial use but has never been developed. Physical characteristics of the BSA are described below. Representative photographs of the BSA are included in Appendix B.

#### **4.1.1 - TOPOGRAPHY**

The BSA is located on the floor of the San Joaquin Valley, west of the Sierra Nevada foothills. The topography is flat, with an elevation of approximately 345 feet above mean sea level.

#### **4.1.2 - CLIMATE**

The region in which the BSA is located is characterized by a Mediterranean climate of hot summers and wet, mild winters. Average high temperatures range from 57 °F in January to 98 °F in July, and it is not uncommon for temperatures to exceed 100 °F during the summer (WRCC 2019). Average low temperatures range from 38 °F in December to 69 °F in July. Precipitation occurs primarily as rain, most of which falls between December and April. Precipitation may also occur as dense fog during the winter known as Tule Fog. Rain rarely falls during the summer months.

#### **4.1.3 - LAND USE**

The Project site is currently designated as General Commercial by the Metropolitan Bakersfield General Plan, and zoned General Commercial, but it has never been developed; the area east of the Project is also undeveloped. The Project is bounded to the west by the Kern Island Canal and South “H” Street and to the south by Taft Highway (SR 119). An automotive repair and smog shop and another commercial property are located west of the



Project and an RV park and mobile home park are south of the Project. The parcel north of the Project has historically been used for agriculture.

#### 4.1.4 - SOILS

The BSA is underlain by three soil types: Granoso sandy loam, Kimberlina fine sandy loam, and Bakersfield fine sandy loam (Figure 4-1; NRCS 2019a).

The Granoso soil series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from mixed rock sources (NRCS 1029a). These soils are found on alluvial fans and flood plains. Slopes range from 0 to 5 percent at elevations from 280 to 1,175 feet. The climate is arid with hot dry summers and somewhat moist winters; flooding is none to rare. Mean annual precipitation is 5 to 8 inches and mean annual air temperature is between 62 and 65 °F. Granoso soils are used primarily for irrigated crops such as cotton, alfalfa, carrots, and wheat. Some areas are used for pasture and homesites. Native vegetation is dominantly annual grasses and forbs.

The Kimberlina series consists of very deep, well-drained soils on flood plains and recent alluvial fans (NRCS 2019a). Soils are formed in mixed alluvium derived primarily from igneous and/or sedimentary rock sources. Slopes range from 0 to 9 percent at elevations from 125 to 2,250 feet. The climate is arid with hot, dry summers and cool winters. Mean precipitation is 4 to 8 inches annually and the mean annual air temperature ranges from 59 to 62 °F. Kimberlina soils are used for irrigated field, forage, and row crops, and for livestock grazing. When undisturbed these soils support annual grasses, forbs, and *Atriplex* (saltbush) species.

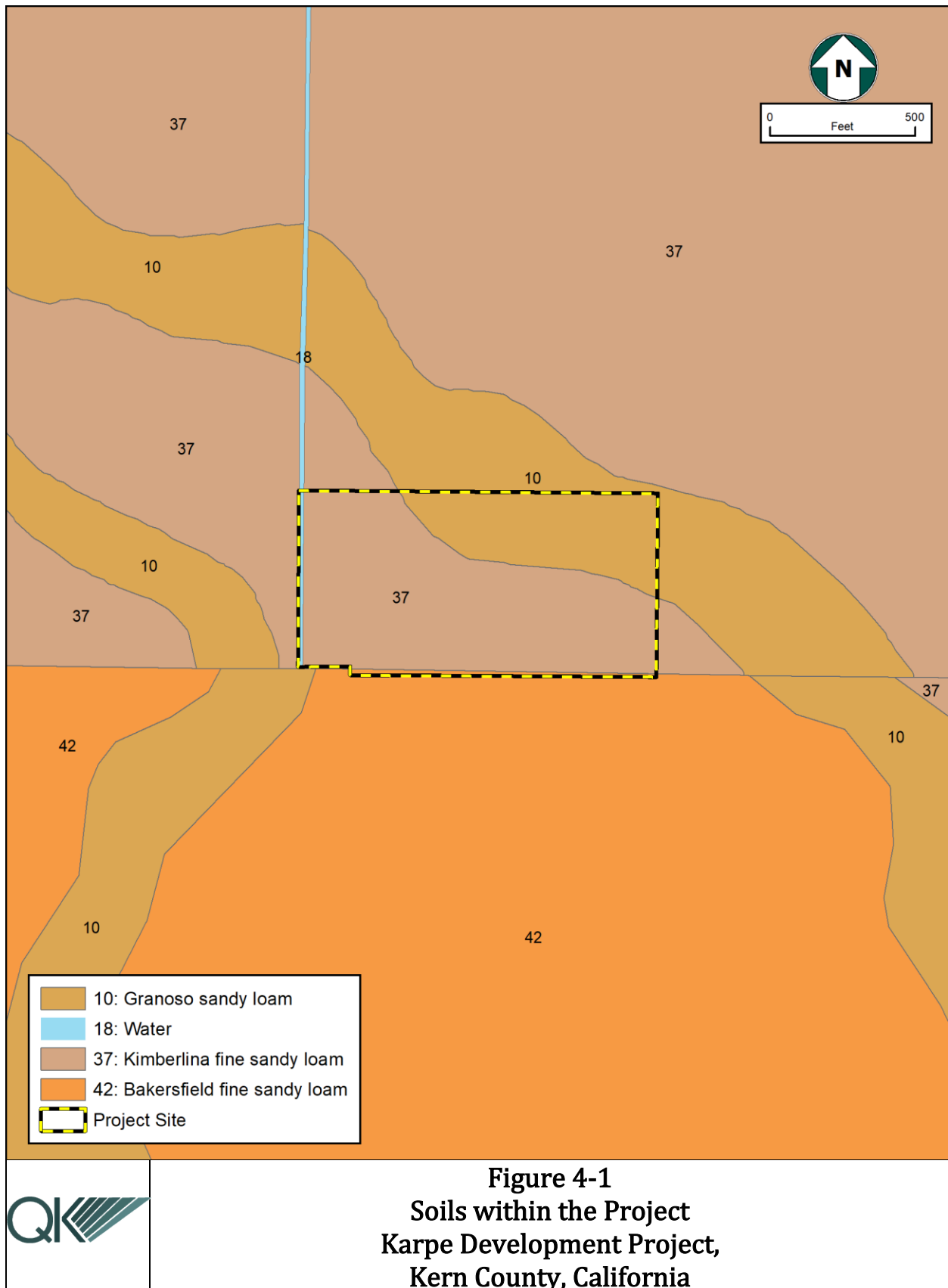
The Bakersfield series consists of very deep, somewhat poorly drained soils formed in stream alluvium derived primarily from granitic rock (NRCS 2019a). They occur on flood plains and in many areas, soils are artificially drained. Slopes range from 0 to 2 percent with elevations from 280 to 680 feet. The climate is arid with hot, dry summers and cool, somewhat moist winters. Mean precipitation is 5 to 8 inches annually and the mean annual air temperature is between 62 and 67 °F. Bakersfield soils are used mainly for irrigated crops such as cotton, alfalfa, dry beans, and lettuce. Some areas are used for pasture and homesites. Native vegetation is dominantly annual grasses and forbs with scatter willow and sycamore trees.

Granoso sandy loam, at slopes between 0 and 2 percent, is designated hydric by the U.S. Department of Agriculture (USDA) under Criteria 2 and 4, depending on location (NRCS 2019b). Bakersfield fine sandy loam, at slopes between 0 and 1 percent, is designated hydric under Criterion 4. Kimberlina fine sandy loam in Kern County is not considered hydric.

The USDA designates soils as hydric if they show evidence of such, or, if based on the range of characteristics for the soil series, they will at least in part meet one of more field indicators of hydric soils in the united states (NRCS 2019b). Criterion 4 includes map unit components that are frequently flooded for long duration or very long duration during the growing season. Criterion 2 includes map unit components in Aquic suborders, great groups or



subgroups; Albolis suborder; Historthels great group; Histoturbels great group; or Andic, Cumulic, Pachic, or Vitrandic subgroups.



#### 4.1.5 - HYDROLOGY

There is one jurisdictional waterway within the BSA, which is designated as an artificial path by the NWI (Figure 4-2). The Kern Island Canal runs north-south on the western border of the Project and is classified as “R4SBCx”, which describes the canal as a riverine intermittent streambed that is seasonally flooded, and which was artificially excavated. At the time of the reconnaissance survey, the Kern Island Canal contained southward-flowing water.

East of the Kern Island Canal, an irrigation ditch runs southward along the western border of the Project, turns east at the southwest corner of the Project, and then drains into a subterranean inlet (Appendix B – Representative Photographs). The NWI has not assigned a designation to this waterway. At the time of the survey there was a steady flow of water in this ditch, and the establishment of aquatic vegetation suggests that there has been a constant water flow for some time.

The BSA is in an Area of Minimal Flood Hazard as designated by FEMA (FEMA 2019).

#### 4.2 - Vegetation and Other Land Cover

Three habitat types were observed within the BSA: annual grassland, urban, and fallow dryland grain crops (Figure 4-3). The habitats observed on-site have been described in the context of *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer, 1988) and cross-referenced to the CWHR, where appropriate. The urban and fallow dryland grain crop habitat types are considered subcategories of Developed Habitats in the CWHR. A complete list of plant species observed is included in Appendix C.

##### *Annual Grassland*

Annual Grassland is described by Mayer & Laudenslayer (1988) as open grasslands composed primarily of annual plant species, which also will occur as understory plants in woodland habitats. Structure is dependent largely on weather patterns and livestock grazing, and large quantities of dead material can be found in summer months. Plant species found include introduced annual grasses such as brome (*Bromus* sp.) and wild oats (*Avena* sp.), and forbs such as red-stemmed filaree (*Erodium cicutarium*) and turkey mullein (*Croton setigerus*). Many wildlife species use annual grassland habitat for foraging, but some require special habitat features such as cliffs, ponds, and woodlands for breeding and refuge. Characteristic species for annual grasslands include western fence lizard (*Sceloporus occidentalis*), western rattlesnake (*Crotalus oreganus*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), turkey vulture (*Cathartes aura*), burrowing owl (*Athene canicularia*), and horned lark (*Eremophila alpestris*).

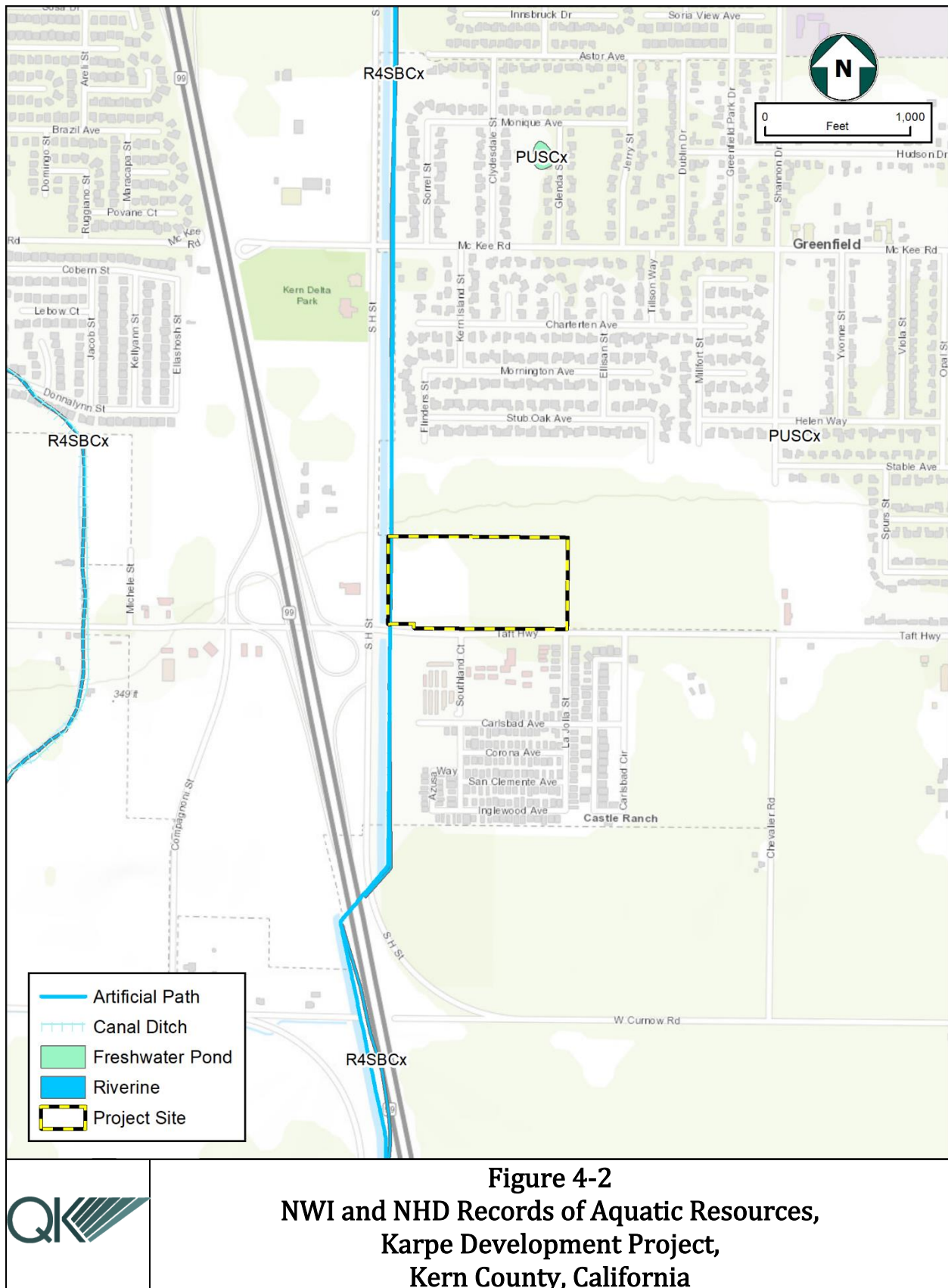
The entirety of the Project is dominated by annual grassland habitat. Ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), and foxtail barley (*Hordeum murinum*) cover the majority of the Project and areas to the south and east, interspersed with larger annual herbs like Russian thistle (*Salsola tragus*) and pigweed amaranth (*Amaranthus albus*). There are areas of bare ground where access roads cross the Project.

The western boundary and southwestern corner of the Project, which are adjacent to the irrigation ditch described in Section 4.1.5, support plants that are slightly more water-dependent, including Johnson grass (*Sorghum halepense*) and curly dock (*Rumex crispus*).

### ***Urban***

Mayer and Laudenslayer (1988) describe urban habitat as variable with five vegetative structures defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. These structures vary based on the associated urban development.

Areas in the BSA west and south of the project are comprised of urban habitat, which includes paved roads, commercial development, and highly disturbed vacant land. Vegetation commonly associated with this habitat includes ornamental herbs (grass lawns, weeds, and flowers), shrubs, hedges, and trees, as well as ruderal species. Species composition within this urban habitat varies with the type of ornamental plantings. Common plants in the Project site included pigweed amaranth (*Amaranthus albus*), fiddleneck (*Amsinckia menziesii*), puncture vine (*Tribulus terrestris*), Russian thistle (*Salsola tragus*), red brome (*Bromus madridensis* ssp. *rubens*), Bermuda grass (*Cynodon dactylon*) and London rocket (*Sisymbrium irio*).









*Dryland Grain Crops (Fallow)*

Vegetation in dryland grain and seed crops are not irrigated and are planted annually in rows in the fall and harvested in the spring. These grain crops may be planted in rotation with other irrigated crops. Often a dryland crop may be grown one year, then left fallow for one or more years before being planted again. Sometimes fallowed land may be grazed by livestock. At the time of the survey, habitat north of the Project consisted of a fallow crop field, vegetated with non-native plants such as ripgut brome (*Bromus diandrus*) and alfalfa (*Medicago sativa*).

**4.3 - General Wildlife Observations**

Wildlife observed in the BSA is typical for urban and agricultural habitats. Bird species included house finch (*Haemorrhous mexicanus*), northern mockingbird (*Mimus polyglottos*), common raven (*Corvus corax*), Eurasian collared dove (*Streptopelia decaocto*), turkey vulture (*Cathartes aura*), and western meadowlark (*Sturnella neglecta*). Mammal species included domestic dog (*Canis familiaris*) tracks, California ground squirrel (*Otospermophilus beecheyi*) sign, and potential San Joaquin kit fox (*Vulpes macrotis mutica*) sign (i.e. potential den and scat). No direct sightings for special-status species were observed during the survey. A complete list of wildlife observed is included in Appendix C.

## SECTION 5 - SENSITIVE RESOURCES

Local, State, and federal agencies regulate special-status species and other sensitive biological resources and require an assessment of their presence or potential for presence to be on-site prior to the approval of proposed development on a property. This section discusses sensitive biological resources observed on the Project site and evaluates the potential for the Project site to support additional sensitive biological resources. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB and CNPS, species occurrence records from other sites in the vicinity of the survey area, and the results of the survey of the Project site. The MBHCP specifically lists four sensitive plant and wildlife species; San Joaquin kit fox (*Vulpes macrotis mutica*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), Tipton's kangaroo rat (*Dipodomys nitratoide nitratoide*) and Bakersfield cactus (*Opuntia basilaris* var. *treleasei*). The potential for each special-status species to occur in the study area was evaluated according to the following criteria:

- **No Potential:** Habitat on and adjacent to the site is clearly unsuitable to meet the needs of the species (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees).
- **Potential:** Conditions on the site may, in some way, support a portion of the species ecology (foraging, reproduction, movement/migration). Negative survey results do not exclude the potential for a species to occur.
- **Present.** Species was observed on the site or has been recorded (e.g., CNDDDB, other reports) on the site recently (within the last 5 years).

### 5.1 - Special-Status Species

Table 5-1 presents the list of special-status plant and animal species determined to have potential to occur on-site and identifies if the Project may affect the species and threaten the viability of the species population. The complete list of species evaluated for this Project is included in Appendix D. Each species is discussed in the subsections below.

**Table 5-1**  
**Special-Status Species with Potential to Occur On-Site**

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Potentially Affected by Project? Yes/No	Viability Threat? Yes/No
<b>Birds</b>			
<i>Athene cunicularia</i> burrowing owl	BCC/- -/SSC	Yes	No
<i>Buteo swainsoni</i>	-/ST	Yes	No

Swainson's hawk	-/-		
<b>Mammals</b>			
<i>Taxidea taxus</i>	-/-		
American badger	-/SSC	Yes	No
<i>Vulpes macrotis mutica</i>	FE/ST		
San Joaquin kit fox	-/-	Yes	No
<hr/>			
CRPR (California Rare Plant Rank):	FE	Federally Endangered	
1A Presumed Extinct in California	FT	Federally Threatened	
1B Rare, Threatened, or Endangered in California and elsewhere	FC	Federal Candidate Species	
2A Plants presumed extirpated in California, but more common elsewhere	FS	Federally Sensitive	
2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere	SE	State Endangered	
	ST	State Threatened	
	SC	State Candidate	
CRPR Threat Code Extension:	SS	State Sensitive	
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)	SSC	State Species of Special Concern	
.2 Fairly endangered in California (20-80% occurrences threatened)	SFP	State Fully Protected	
.3 Not very endangered in California (<20% of occurrences threatened)	SR	State Rare	

### 5.1.1 - SPECIAL-STATUS PLANT SPECIES

The literature and database review identified fifteen (15) special-status plant species known to occur or with potential to occur within the vicinity of the Project (See evaluation table in Appendix D). None of those species were determined to have a potential to occur within the BSA because there was no habitat present that would support those species.

### 5.1.2 - SPECIAL-STATUS ANIMAL SPECIES

The literature and database review identified 30 special-status animal species known to occur or with the potential to occur in the vicinity of the Project (see evaluation table in Appendix D). Of those species, four were determined to have a potential to occur on-site:

- **Burrowing owl** (*Athene cunicularia*) – Species of Special Concern
- **Swainson's hawk** (*Buteo swainsoni*) – State Threatened
- **American Badger** (*Taxidea taxus*) – Species of Special Concern
- **San Joaquin kit fox** (*Vulpes macrotis mutica*) – Federally Endangered, State Threatened

#### **Burrowing Owl**

##### **ATHENE CUNICULARIA**

Status: Species of Special Concern

The burrowing owl is a broadly distributed, small ground-dwelling owl that can be found throughout western North America, Florida, Central and South America, Hispaniola, Cuba,

and northern Lesser Antilles, and the Bahamas (Shuford and Gardali 2008). Typically, this species can be found in a variety of habitat types including grasslands, deserts, or other open habitats where food resources are available and contain treeless areas with low vegetation cover and gently sloping terrain (Rodewald 2015).

Burrowing owls utilize earthen burrows, typically relying on other fossorial mammals to construct their burrows such as prairie dog (*Cynomys* spp.) or American badger (*Taxidea taxus*) (USFWS 1998). In Florida, burrowing owls are capable of digging their own burrows (Poulin 2011). In California, they are associated with California ground squirrels (*Otospermophilus beecheyi*) and prairie dogs (Winchell 1994). They use a burrow throughout the year for temperature regulation, off-spring rearing, shelter, and escape from predators. While burrows are most often earthen, they have been documented using atypical burrows such as pipes, culvers, and other man-made structures as burrows, most often as shelter (Shuford and Gardali 2008). Burrowing owls can have several burrows in close proximity to each other that they may use frequently in case of predators in the vicinity.

The nearest recorded occurrence (EONDX 82909) included three sites with multiple individuals including a total of 5 adult and 6 juveniles. This 2007 recorded occurrence is approximately 1.5-miles east of the Project site. Currently there is an existing canal and farmland crops in the vicinity. The most recent recoded occurrence (EONDX 105727) included one adult being flushed from a burrow. This 2016 recorded occurrence is approximately 5.7-miles south of the Project site. Currently the area has been converted to a solar farm and farmland crops are in the vicinity.

Based on site conditions during the reconnaissance survey, the annual grassland could support nesting and foraging burrowing owls. The fallow fields to the north of the Project, provides potential foraging habitat.

### **Swainson's Hawk**

***BUTEO SWAINSONI***

Status: State Threatened

Swainson's hawks occur in grassland, desert, and agricultural landscapes throughout the Central Valley and Antelope Valley (Bechard et al. 2010, Zeiner et al. 1990). Some hawks may be resident, especially in the southern portion of their range, while others may migrate between winter and breeding habitats. They prefer larger isolated trees or small woodlots for nesting, usually with grassland or dry-land grain fields nearby for foraging and have been known to nest in large eucalyptus trees along heavily traveled freeway corridors. Swainson's hawks forage in grassland, open scrub, pasture, and dryland grain agricultural habitats, primarily for rodents. Swainson's hawks exhibit a moderate to high nest site fidelity for successful nest sites.

The nearest and most recent recorded occurrence (EONDX 115317) included one adult sitting in a nest located in a group of eucalyptus trees (*Eucalyptus globulus*) and another flying overhead. This 2017 recorded occurrence is approximately 2.0-miles south of the Project site. Based on site conditions during the reconnaissance survey, there are in the

vicinity of the Project site that could support nesting Swainson's hawks (i.e., large trees). The agricultural lands adjacent to the Project, specifically the fallow grain field to the north, provides potential foraging habitat.

***American Badger******TAXIDEA TAXUS***

Status: Species of Special Concern

The American badger is an uncommon permanent resident throughout California except for the northern North Coast (CDFW 1995). They can typically be found in grasslands, deserts, and drier habitats. Typical physical characteristics include a variety of fur color from gray, brown, white, rust, buff, or orange with a white stripe running from the nose to the back neck. Badgers also have short legs with long claws that are used for digging dens (Kays and Wilson 2009).

Badgers are typically nocturnal and hunt or forage at night while spending daylight hours below ground. Normally, they have a single den entrance that is approximately eight to 12 inches in an elliptical or half-moon shape, similar to their body shape. Dens are usually found in friable soils, allowing them to dig easier. American badgers spend a majority of their time near a den; however, they can have multiple dens in an area that can be used at the same time.

The nearest and most recent recorded occurrence (EONDX 57313) was recorded in 1900 and is located approximately 1.5-miles north of the Project site. Since the time of the recorded occurrence the area has been developed for commercial, industrial and residential properties along with road improvements. Based on site conditions during the reconnaissance survey, the site has the potential to provide denning and foraging habitat for the species. The American badger is known to be a transient forager in the vicinity and may be present from time to time.

***San Joaquin Kit Fox******VULPES MACROTIS MUTICA***

Status: Federally Endangered and State Threatened

San Joaquin kit foxes are a subspecies of kit fox that is endemic to the Central Valley of California (USFWS 1998, 2010). They are found primarily in the San Joaquin Valley, Carrizo Plain, and Cuyama Valley, as well as other small valleys in the western foothills of the Central Valley. They are only found west of the Sierra Nevada crest. They occupy arid to semi-arid grasslands, open shrublands, savannahs, and grazed lands with loose-textured soils. San Joaquin kit foxes are well-established in some urban areas and are highly adaptable to human-altered landscapes. They generally avoid intensively maintained agricultural land. San Joaquin kit foxes use subterranean dens year-round for shelter and pup-rearing. They are nocturnally active but may be visible above ground near their dens during the day, particularly in the spring. They feed primarily on small mammals, but will consume a variety of prey, and will scavenge for human food.

The most recent recorded occurrence (EONDX 115009) near the Project site was located approximately 8.0-miles northwest of the Project site. The occurrence was documented in 2017 and a deceased SJKF was found and salvaged. The area the SJKF was located at includes residential and commercial development. The nearest recorded occurrence (EONDX 53951) was documented in 2006 and included several SJKF dens. The recorded occurrence was approximately 0.7-miles northwest of the Project site and the area has been developed with commercial and residential properties.

During the reconnaissance survey, a potential SJKF natal den was observed near the center of the Project site (Figure 5-1). The survey was conducted outside of the breeding season, but prey remains, and claw marks were present at the den entrances. There is suitable foraging habitat in the agricultural, residential, and open habitat lands surrounding the Project, and the species may occur as transient. The SJKF is known to be a transient forager and could be a resident in the Project vicinity. This species is potentially present on the Project site from time to time.

### **5.1.3 - OTHER PROTECTED SPECIES**

#### ***Nesting Birds***

Habitat within the BSA supports nesting native bird species, which are protected by the federal MBTA. The reconnaissance survey was conducted outside of the nesting bird season (February 1<sup>st</sup> to September 15<sup>th</sup>) but several bird species were observed on or in the vicinity of the Project site. Various species of migratory birds will construct nests in a variety of habitats and structures, and nests may be found in trees or shrubs, in man-made structures, and directly on the ground. Cliff swallow (*Petrochelidon pyrrhonata*) nests were observed within the BSA located to the southwest of the Project site (Figure 5-1).

## **5.2 - Sensitive Natural Communities**

### **5.2.1 - SENSITIVE PLANT COMMUNITIES**

The database and literature review identified three sensitive plant communities within 10-miles of the Project site including: Great Valley Cottonwood Riparian Forest, Great Valley Mesquite Scrub, and Valley Saltbush Scrub. The nearest Great Valley Riparian Forest community occurrence (EONDX 28906) is located approximately 6.7-miles northwest of the Project site. The nearest Great Valley Mesquite Scrub community occurrence (EONDX 28800) is located approximately 7.8-miles southwest of the Project site. The nearest Valley Saltbush Scrub community occurrence (EONDX 16319) is located approximately 23.6-miles southeast of the Project site.

No sensitive plant community was observed on the Project site because the vicinity of the Project site has been mostly developed for commercial use, road improvements and surrounding areas have been repeatedly disturbed for decades for agricultural purposes.



### 5.2.2 - CRITICAL HABITATS

The Project does not overlap with any federally designated critical habitats (Figure 5-2; USFWS 2019b). Critical habitat for two species, Buena Vista Lake Ornate Shrew (*Sorex ornatus relictus*) and California condor (*Gymnogyps californianus*), occur within 20-miles of the Project site. Buena Vista Lake Ornate Shrew critical habitats are located approximately 10.3-miles southwest and 16.4-miles west of the Project site. California condor critical habitat is located approximately 19.6-miles south of the Project site.

### 5.1 - Jurisdictional Aquatic Resources

A formal delineation of waters of the U.S. and waters of the State was not conducted for this Project and a delineation was not warranted. The search of the NHD and NWI databases showed that there is one jurisdictional waterway within the BSA (Figure 4-2, USGS 2019, USFWS 2019c). The waterway is designated as an artificial path by the NWI and is classified as "R4SBCx." No temporary or permanent bodies of water were observed on the Project site during the reconnaissance survey.

### 5.2 - Wildlife Movement

Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. Wildlife movement corridors can be large tracts of land that connect regionally important habitats that support wildlife in general, such as stop-over habitat that supports migrating birds or large contiguous natural habitats that support animals with very large home ranges (e.g., coyotes [*Canis latrans*], mule deer [*Odocoileus hemionus californicus*]). They can also be small scale movement corridors, such as riparian zones, that provide connectivity and cover to support movement at a local scale.

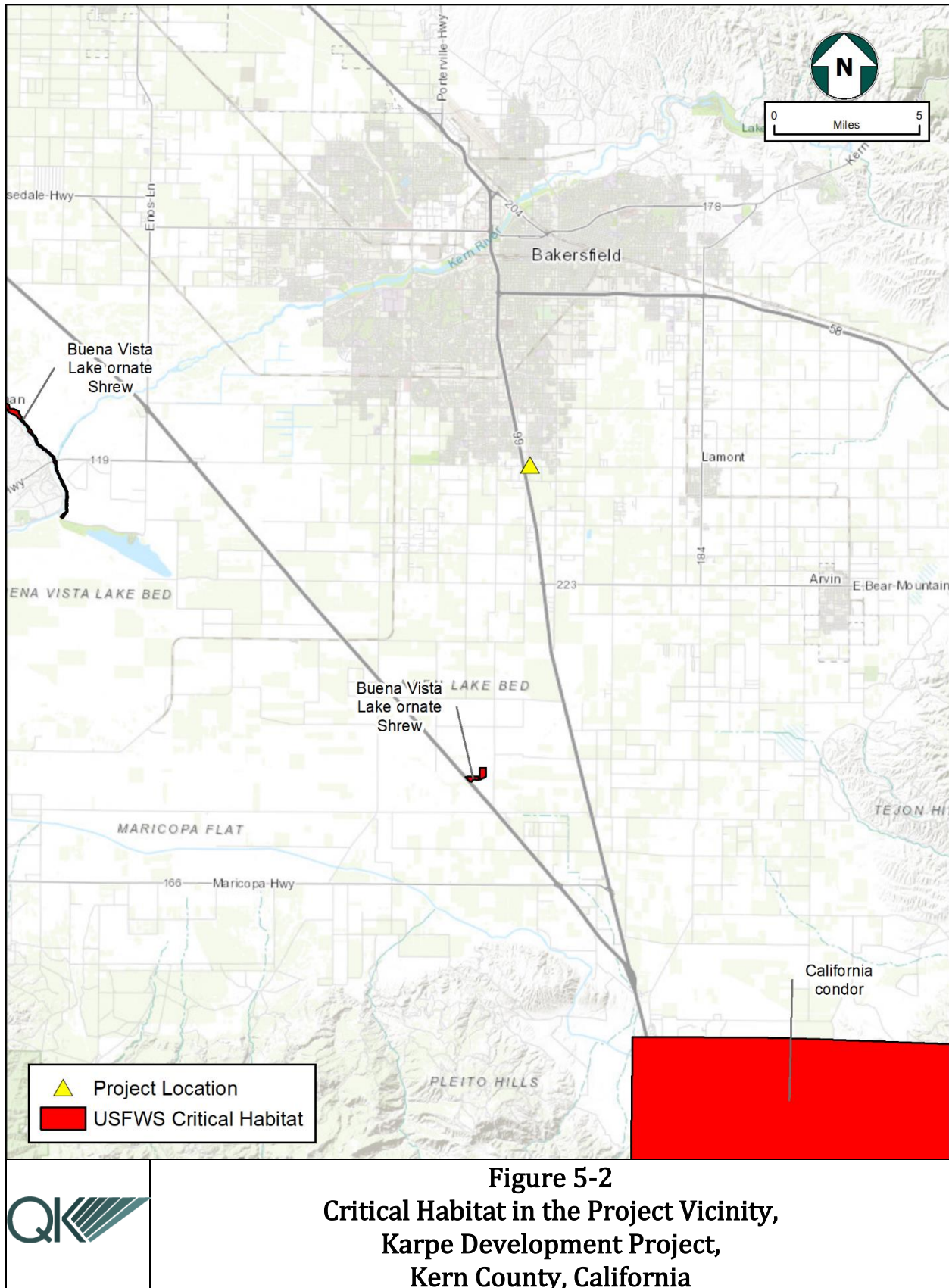
The Project is not located within any identified wildlife linkages or corridors identified by the California Essential Habitat Connectivity Project (Spencer et al. 2010). The Kern Island Canal located along the western border of the Project could potentially be used by wildlife to travel through the area.

### 5.3 - Resources Protected by Local Policies and Ordinances

The Metropolitan Bakersfield General Plan and the Kern County General Plan contains policies aimed at the preservation of biological resources and promotes coordination with federal and State resource agencies. These policies are listed in Appendix A. The General Plan also outlines a work plan with implementation measures by which to uphold these policies, including a biological resource review for proposed projects and development of mitigation measures for these projects.







## 5.1 - Habitat Conservation Plans

The Project is within the boundaries of the two Habitat Conservation Plans (HCPs). The Metropolitan of Bakersfield Habitat Conservation Plan (MBHCP) and the PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan. The PG&E HCP covers activity for PG&E resources only and it does not apply to the Project.

The City of Bakersfield and Kern County developed the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) that allows take of federally listed species included in the MBHCP area. The current MBHCP was issued by the USFWS under Section 10(a)(1)(B) of the FESA in 1994 (USFWS 1994), which is currently undergoing renewal. A separate permit was issued by the CDFW under Section 2081 of the CESA in 2014 (CDFW 2014, as amended) to align with the MBHCP for those species covered under both FESA and CESA. The MBHCP and associated State ITP are designed to offset impacts resulting from the incidental take of listed species and the loss of habitat incurring through the authorization of otherwise lawful activities. The goal of the MBHCP is to acquire, preserve, and enhance native habitats that support special-status species while allowing development to proceed as set forth in the Metropolitan Bakersfield General Plan (MBGP). The BSA covered by the MBHCP contains both the City of Bakersfield and Kern County jurisdictions.

The Project is located within the boundaries of the Metropolitan Bakersfield Habitat Conservation Plan. The MBHCP provides incidental take authorization for four special-status species that are known to occur within the plan area. These include the San Joaquin kit fox, San Joaquin antelope squirrel, Tipton kangaroo rat (*Dipodomys nitratoide nitratoide*) and Bakersfield cactus (*Opuntia basilaris treleasei*). The MBHCP requires payment of a mitigation fee for all new development that necessitates a grading permit or conditional use permit on previously undeveloped land, which includes agricultural land. Impacts to species for projects that fall within the MBHCP include mitigation and are outlined in Section 6.

## **SECTION 6 - IMPACT ANALYSIS AND AVOIDANCE AND MINIMIZATION MEASURES**

This section provides an analysis of the potential for special-status biological resources to be impacted by the proposed Project. The analysis was developed using the CEQA Appendix G questions, but also provides sufficient information to support NEPA documentation.

### **6.1 - Special-Status Species**

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 or U.S. Fish and Wildlife Service.*

#### **6.1.1 - PROJECT IMPACTS TO SPECIAL-STATUS PLANT SPECIES**

No special-status plant species have potential to occur within the BSA because of existing habitat and soil conditions. No impacts to special-status plant species will occur. No impacts to the Bakersfield cactus will occur.

#### **6.1.2 - PROJECT IMPACTS TO SPECIAL-STATUS ANIMAL SPECIES**

##### ***Tipton kangaroo rat and San Joaquin antelope squirrel***

No impacts to the Tipton kangaroo rat or the San Joaquin antelope squirrel, both species covered by the MBHCP will occur because those species were not identified as having a potential to occur on the Project site.

##### ***Burrowing Owl***

There is no positive evidence that burrowing owl is present within the BSA, but suitable nesting and foraging habitat exists within the BSA. Direct impacts to burrowing owl could occur in construction activities occur near an active burrow during the nesting season. No potential burrowing owl burrows or their sign was observed during the reconnaissance survey, but the species is present year-round and travel from burrow to burrow periodically. It is possible for a transient burrowing owl to move on site at any time. No indirect impacts are anticipated given the short duration of construction in any given area and loss of marginal suitable nesting or foraging habitat would occur as a result of the Project.

##### ***Swainson's Hawk***

There is no positive evidence that Swainson's hawk is present within the BSA, but suitable nesting habitat exists within the vicinity of the Project site and foraging habitat exists in the fallow alfalfa field to the north of the Project site. Direct impacts to Swainson's hawks could occur if construction activities occur near an active nest during the nesting season, but there

are no potential nesting sites located on the Project site. Potential nesting sites are located to the west of the site and are outside the BSA. No indirect impacts are anticipated given the short duration of construction in any given area and no loss of suitable nesting or foraging habit would occur as a result of the Project.

### ***American Badger***

There is no positive evidence that American badger is present within the BSA, but suitable denning and foraging habitat exists within the BSA. Direct impacts to American badger could occur if construction activities occur near an active den. The potential San Joaquin kit fox natal den could possibly be used by American badger. Because this species is highly mobile, it may be present from time to time on the Project site as a transient forager. No indirect impacts are anticipated given the short duration of construction in any given area and loss of low-quality suitable denning and foraging habit would occur as a result of the Project.

### ***San Joaquin Kit Fox***

The old natal den that was found on the Project site is positive evidence that San Joaquin kit fox has lived on the Project site in the past. Suitable denning and foraging habitat exist within and around the Project. Because this species is highly mobile, it may be present from time to time on the Project site as a transient forager or part-time resident. Direct impacts resulting in injury or death of pups could occur if an active natal den is located near a construction area, causing the adults to alter normal behaviors. Direct impacts by vehicles is a concern for San Joaquin kit foxes in urban environments, but the proposed Project would not cause an appreciable increase in traffic at night when the species is most active. Direct impacts could also include entrapment in trenches or pipes during construction. Indirect impacts will occur if potential dens are eliminated and foraging habitat is lost at the Project site during construction.

### ***Nesting Birds***

The Project site contains low quality suitable habitat for a wide variety of nesting bird species. Although no trees or shrubs are anticipated to be removed, Project activities adjacent to nesting birds could result in direct impacts to nests from noise and vibration caused by construction activities. Normal behaviors in nesting adults could result from construction activities and human presence that could lead to nest failure. Direct impacts include noise and dust from construction and loss of ground nesting and forage habitat would occur as a result of the Project.

### ***Avoidance and Minimization Measures***

The limited disturbance footprint for this Project and the short duration of activities at any given location, coupled with implementation of avoidance and minimization would reduce impacts of the Project to special-status wildlife species to level that would be less than significant. The following measures are recommended to avoid and minimize impacts to burrowing owl, Swainson's hawk, American badger, San Joaquin kit fox, and nesting birds.



**BIO-1** The Project will comply with the applicable Minimization Measures as excerpted from the Metropolitan Bakersfield Urban Development Incidental Take Permit #2081-2013-058-04, as amended. These measures are also known as Conditions of Approval (COA) and include COA 7.1 through 7-18, where applicable.

**BIO- 2** Prior to ground disturbing activities, a qualified wildlife biologist shall conduct a biological clearance survey no less than 14 days and not more than 30 calendar days prior to the onset of ground disturbance activities.

The clearance survey shall include walking transects to identify presence of American badger, Swainson's hawk, burrowing owl, nesting birds, and other special-status species or signs of, and sensitive natural communities. The pre-construction survey shall be walked by no greater than 30-foot transects for 100 percent coverage of the Project site and the 250-foot buffer, where feasible. If no evidence of special-status species is detected, no further action is required but measure BIO-3 should be implemented.

**BIO-3** If dens/burrows that could support the San Joaquin kit fox or American badger are discovered during the pre-activity surveys conducted under BIO-MM-1, the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

- Potential Den – 50 feet
- Atypical Den – 50 feet (includes pipes and other man-made structures)
- Known Den – 100 Feet
- Natal/Pupping Den – 500 feet

**BIO-3** The following avoidance and minimization measures should be implemented during all phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011).

- a. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project site.
- b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds should not exceed 20 miles per hour (mph) within the Project site.
- c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor should cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks should be installed

in the trench. Before such holes or trenches are filled, the contractor should thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored on the Project site should be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area should be temporarily halted and USFWS and CDFW shall be consulted.

- d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
- e. No pets, such as dogs or cats, should be permitted on the Project sites to prevent harassment, mortality of kit foxes, or destruction of dens.
- f. Use of anti-coagulant rodenticides and herbicides in Project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide should be used because of the proven lower risk to kit foxes.
- g. A representative should be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative should be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
- h. The Sacramento Fish and Wildlife Office of USFWS and CDFW should be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.
- i. All sightings of the San Joaquin kit fox should be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a

topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

- j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.
- k. If burrowing owl are found to occupy the Project site and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited, and after the burrow is confirmed empty through non-invasive methods (surveillance). Replacement or occupied burrows shall consist of artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1). Ongoing surveillance of the Project site during construction activities shall occur at a rate sufficient to detect Burrowing owl, if they return.

**BIO-4** If construction is planned outside the nesting period for raptors (other than the western burrowing owl) and migratory birds (February 15 to August 31), no mitigation is required. If construction is planned during the nesting season for migratory birds and raptors, a preconstruction survey to identify active bird nests should be conducted by a qualified biologist to evaluate the site and a 250-foot buffer for migratory birds and a 500-foot buffer for raptors. If nesting birds are identified during the survey, active raptor nests should be avoided by 500 feet and all other migratory bird nests should be avoided by 250 feet. Avoidance buffers may be reduced if a qualified on-site monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season.

No construction or earth-moving activity should occur within a non-disturbance buffer until it is determined by a qualified biologist that the young have fledged (left the nest) and have attained sufficient flight skills to avoid Project construction areas. Once the migratory birds or raptors have completed nesting and young have fledged, disturbance buffers will no longer be needed and can be removed, and monitoring can cease.

**BIO-5** If all Project activities are completed outside of the Swainson's hawk nesting season (February 15 through August 31), this mitigation measure need not be applied. If construction is planned during the nesting season, a preconstruction survey should be conducted by a qualified biologist to evaluate the site and a 0.5-mile buffer around the site for active Swainson's hawk nests. If potential Swainson's hawk nests or nesting substrates occur within 0.5 mile of the Project site, then those nests or substrates must be

monitored for Swainson's hawk nesting activity on a routine and repeating basis throughout the breeding season, or until Swainson's hawks or other raptor species are verified to be using them. Monitoring should be conducted according to the protocol outlined in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The protocol recommends that ten visits be made to each nest or nesting site: one during January 1-March 20 to identify potential nest sites, three during March 20-April 5, three during April 5-April 20, and three during June 10-July 30. To meet the minimum level of protection for the species, surveys should be completed for at least the two survey periods immediately prior to Project-related ground disturbance activities. During the nesting period, active Swainson's hawk nests should be avoided by 0.5 mile unless this avoidance buffer is reduced through consultation with the CDFW and/or USFWS. If an active Swainson's hawk nest is located within 500 feet of the Project or within the Project site, the Project proponent should contact CDFW for guidance.

If no Swainson's hawk nests are found, no further action is required.

**BIO-6** If an active Swainson's hawk nest is discovered at any time within 0.5-mile of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities should not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nest location, the sensitivity of the nesting Swainson's hawk to disturbances, and at the discretion of the qualified biologist.

**BIO-7** A qualified biologist should conduct a pre-construction survey on the Project site and within 500 feet of its perimeter, where feasible, to identify the presence of the western burrowing owl. The survey should be conducted between 14 and 30 days prior to the start of construction activities. If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures should be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If occupied burrowing owl burrows are observed outside of the breeding season (September 1

through January 31) and within 250 feet of proposed construction activities, a passive relocation effort may be instituted in accordance with the guidelines established by the California Burrowing Owl Consortium (1993) and the California Department of Fish and Wildlife (2012). During the breeding season (February 1 through August 31), a 500-foot (minimum) buffer zone should be maintained unless a qualified biologist verifies through noninvasive methods that either the birds have not begun egg laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

In addition, impacts to occupied burrowing owl burrows should be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

**BIO-8** Prior to ground disturbance activities, or within one week of being deployed at the Project site for newly hired workers, all construction workers at the Project site should attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified biologist.

The Construction Worker Environmental Awareness Training and Education Program should be presented by the biologist and should include information on the life history wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of “take” under the Endangered Species Act, measures the Project operator is implementing to protect the species, reporting requirements, specific measures that each worker must employ to avoid take of the species, and penalties for violation of the Act. Identification and information regarding special-status or other sensitive species with the potential to occur on the Project site should also be provided to construction personnel. The program should include:

- An acknowledgement form signed by each worker indicating that environmental training has been completed.
- A copy of the training transcript and/or training video/CD, as well as a list of the names of all personnel who attended the training and copies of the

signed acknowledgement forms shall be maintain on site for the duration of construction activities.

**Significance After Mitigation.** Implementation of the avoidance, minimization, and mitigation measures above will reduce impacts to special-status wildlife species to a less than significant level.

## **6.2 - Sensitive Natural Communities and Critical Habitat**

The proposed project would have a significant effect on biological resources if it would:

- b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*

The Project does not support any riparian or other sensitive natural communities, nor does it overlap with any designated critical habitat. The Project would have no impacts to these resources and no measures are warranted.

## **6.3 - Jurisdictional Aquatic Resources**

The proposed project would have a significant effect on biological resources if it would:

- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

There are no wetlands or water features on or in the vicinity of the Project. The Project would have no impacts to jurisdictional aquatic resources and no measures are warranted.

## **6.4 - Wildlife Movement**

The proposed project would have a significant effect on biological resources if it would:

- d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

The Project is not located within a mapped wildlife movement corridor or linkage. The Kern Island Canal may be used by local wildlife as a corridor to travel throughout the area, but the canal will not be impacted by the Project. No other drainages or riparian habitat were identified during the reconnaissance survey. The Project would not have any impacts to wildlife movement corridors and no measures are warranted.

## **6.5 - Local Policies and Ordinances**

The proposed project would have a significant effect on biological resources if it would:

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

The Project does not conflict with the Metropolitan of Bakersfield General Plan and is not subject to any local ordinances. Therefore, there are no impacts with respect to local policies and ordinances and no measures are warranted.

## **6.6 - Adopted or Approved Plans**

The proposed project would have a significant effect on biological resources if it would:

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.*

The two Habitat Conservation Plans, MBHCP and PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan, are the only plans overlying the proposed Project. The goal of the MBHCP is to acquire, preserve, and enhance native habitats that support special-status species while allowing development to proceed as set forth in the MBGP. The study area covered by the MBHCP contains both the City of Bakersfield and Kern County jurisdictions. The proposed project does fall within the city limits of Bakersfield and will follow the approved MBHCP mitigation measures. The PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan only applies to PG&E maintenance projects and does not apply to the currently proposed Project. The PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan only applies to PG&E operations and maintenance projects, and it does not apply to this Project.

The proposed Project will not conflict with any adopted Habitat Conservation Plan upon compliance with the COA outlined in the MBHCP ITP and the recommended avoidance and minimization measures noted above. The Project would not conflict with an adopted Natural Conservation Community Plan, or other approved local, regional, or State habitat conservation plan, so there will be no impacts and no measures are warranted.

## **SECTION 7 - LIMITATIONS, ASSUMPTIONS, AND USE RELIANCE**

This Biological Analysis Report has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The findings and opinions conveyed in this report are derived from a site reconnaissance and specified historical and literature sources. The biological investigation is limited by the scope of work performed. Reconnaissance-level biological surveys are limited by the environmental conditions present at the time of the surveys. Biological surveys do not guarantee that specific organisms are not present and will not be discovered in the future within the site. In particular, mobile animal species could occupy the site on a transient basis or re-establish populations in the future. No other guarantees or warranties, expressed or implied, are provided.



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## **APPENDIX A**

### **REGULATORY SETTING** ***KARPE DEVELOPMENT PROJECT***

# Regulatory Setting

## ***Federal Laws and Regulations***

### ***Federal Endangered Species Act of 1973 (USC, Title 16, Sections 1531 -1543)***

The federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. The FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA provides a program for the conservation and recovery of threatened and endangered species as well as the protection of designated critical habitat that USFWS determines is required for the survival and recovery of listed species.

Section 9 lists actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of “harm” includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. “Harass” is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction of adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations (CCR) Title 50, Part 402. If an activity could result in “take” of a listed species as an incident of an otherwise lawful activity, then a biological opinion can be issued with an incidental take statement that exempts the activity from FESA’s take prohibitions.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at CFR Title 50, Sections 13 and 17 for species under the jurisdiction of USFWS and CFR, Title 50, Sections 217, 220, and 222 for species under the jurisdiction of NMFS. Section 10 would apply to the Project if take of a species (as defined in Section 9) were determined to occur.

Section 4(a)(3) and (b)(2) of the FESA requires the designation of critical habitat to the maximum extent possible and prudent based on the best available scientific data and after considering the economic impacts of any designations. Critical habitat is defined in section 3(5)(A) of the FESA: 1) areas within the geographic range of a species that are occupied by individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special



management consideration or protection; and 2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

***Migratory Bird Treaty Act (USC, Title 16, Sections 703 - 711)***

The MBTA, first enacted in 1918, is a series of treaties that the United State has with Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird” (U.S. Code Title 16, Section 703). The MBTA currently includes several hundred species and includes all native birds.

***BALD AND GOLDEN EAGLE PROTECTION ACT OF 1940 (USC, TITLE 16, SECTION 668)***

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species and established civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. (Federal Register [FR], volume 72, page 31132; 50 CFR 22.3).

***Federal Clean Water Act (USC, Title 33, Sections 1521 - 1376)***

The Federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires that a Project applicant that is pursuing a federal license or permit allowing a discharge to waters of the U.S. to obtain State Certification of Water Quality, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by the United States Army Corps of Engineers (USACE) that regulates the discharge of the dredged or fill material into waters of the U.S., including wetlands. The USACE implementing regulations are found in CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

## ***Applicable State Laws and Regulations***

### ***California Environmental Quality Act (California Public Resources Code, Sections 21000 - 21178, and Title 14 CCR, Section 753, and Chapter 3, Sections 15000 - 15387)***

The California Environmental Quality Act (CEQA) is California's broadest environmental law. CEQA helps guide the issuance of permits and approval of projects. Courts have interpreted CEQA to afford the fullest protection of the environment within the reasonable scope of the statutes. CEQA applies to all discretionary projects proposed to be conducted or approved by a State, County, or City agency, including private projects requiring discretionary government approval.

The purpose of CEQA is to disclose to the public the significant environmental effects of a proposed discretionary project; prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring; disclose to the public the agency decision making process to approve discretionary projects; enhance public participation in the environmental review process; and improve interagency coordination.

State CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or State list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals.

### ***California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)***

The California Endangered Species Act (CESA) establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve Projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For Projects that would result in take of a species listed under the CESA, a project proponent would need to obtain a take permit under Section 2081(b). Alternatively, the CDFW has the option of issuing a Consistency Determination (Section 2080.1) for Projects that would affect a species listed under both the CESA and the FESA, as long as compliance with the FESA would satisfy the “fully mitigate” standard of CESA, and other applicable conditions.

### ***Porter-Cologne Water Quality Control Act***

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB regulates waters of the State under the authority of the Porter-Cologne Water Quality Control Act (Porter Cologne Act). The RWQCB requires Projects to avoid impacts to wetlands whenever feasible and requires that Projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to wetlands and/or waters of the State. The RWQCB has jurisdiction over waters

deemed ‘isolated’ or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County (SWANCC) decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste into waters of the State, and such discharges are authorized through an Order of Waste Discharge (or waiver of discharge) from the RWQCB.

### ***Various Sections of the California State and Fish and Game Code***

#### **SECTION 460 AND SECTIONS 4000-4003**

Chapter 5 of the California Fish and Game Code (FGC) describes regulations concerning the take of furbearing mammals, including defining methods of take, seasons of take, bag and possession limits, and areas of the State where take is allowed. Section 4000-4003 defines furbearing mammals, and the issuance of permits by the Department. Sections 460 and 4000 identifies fisher, marten, river otter, desert kit fox and red fox as furbearing mammals, and Section 460 prohibits take of these species at any time. This section of the California Fish and Game Code (FGC) has historically been interpreted to apply to restriction on furbearer trapping permit but has recently been expanded by CDFW to apply to any forms of take and treated as if these species were listed under CESA.

#### **SECTIONS 1600 THROUGH 1616**

Under these sections of the FGC, a Project operator is required to notify CDFW prior to any Project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the California Code of Regulations, a “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and Project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable Project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement.

#### **SECTIONS 3511, 4700, 5050, AND 5515**

The protection of fully protected species are described in Sections 3511, 4700, 5050, and 5515 of the FGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species, except as allowed for in an approved Natural Communities Conservation Plan (NCCP), or through direct legislative action.

#### **SECTIONS 1900 THROUGH 1913 - NATIVE PLANT PROTECTION ACT**

California’s Native Plant Protection Act (NPPA) requires all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provision of

the NPPA prohibit that taking of listed plants from the wild and require notification of CDFW at least ten days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. A Project proponent is required to conduct botanical inventories and consult with CDFW during Project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

## ***Local and Regional Laws, Regulations, and Policies***

### ***Metropolitan Bakersfield General Plan***

Last revised and approved in April 2009, the Metropolitan Bakersfield General Plan has been prepared as a joint planning effort between the City of Bakersfield and Kern County to govern land use decisions within the city limits and unincorporated Kern County land within the Bakersfield Metropolitan Area. Its purpose is to give long-range guidance to those making decisions affecting the future character of the Metropolitan Bakersfield planning area. It represents the official statement of the community's physical development as well as its economic, social, and environmental goals. The general plan also acts to clarify and articulate the relationship and intentions of local government to the rights and expectations of the general public, property owners, and prospective investors. Through the plan, the local jurisdiction can inform these groups of its goals, policies, and development standards, thereby communicating what must be done to meet the objectives of the plan (City of Bakersfield and County of Kern 2016).

## ***Chapter V. Conservation Element of the Metropolitan Bakerfield General Plan (MBGP)***

### ***Biological Resources***

**Goal 1.** Conserve and enhance Bakersfield's biological resources in a manner which facilitates orderly development and reflects the sensitivities and constraints of these resources.

**Goal 2.** To conserve and enhance habitat areas for designated "sensitive" animal and plant species.

**Policy 1.** Direct development away from "sensitive biological resource" areas, unless effective mitigation measures can be implemented.

**Policy 2.** Preserve areas of riparian vegetation and wildlife habitat within floodways along rivers and streams, in accordance with the Kern River Plan Element and channel maintenance programs designed to maintain flood flow discharge capacity.

**Policy 3.** Discourage, where appropriate, the use of off-road vehicles to protect designated sensitive biological and natural resources.

***Metropolitan Bakersfield Habitat Conservation Plan***

The City of Bakersfield and Kern County developed the MBHCP that allows take of federally listed species included in the MBHCP area. The current MBHCP was issued by the USFWS under Section 10(a)(1)(B) of the FESA in 1994 and is currently undergoing renewal. A separate permit was issued by the CDFW under Section 2081 of the CESA (CESA 9322) in 2014 to align with the MBHCP for those species covered under both FESA and CESA. The MBHCP is designed to offset impacts resulting from the incidental take of listed species and the loss of habitat incurred through the authorization of otherwise lawful activities. The goal of the MBHCP is to acquire, preserve, and enhance native habitats that support special-status species while allowing development to proceed as set forth in the MBGP. The study area covered by the MBHCP contains both the City of Bakersfield and Kern County jurisdictions.

The MBHCP program is funded through the collection of one-time mitigation fees, prior to ground disturbance, paid on all new construction taking place within the program boundaries. Upon payment of the mitigation fee and receipt of County project approval, a development permit applicant would be allowed the “incidental take” of special-status species in accordance with State and Federal Endangered species laws. The mitigation funds collected will be deposited into a trust fund and are administered by the Implementation Trust, which is composed of representatives from the City of Bakersfield and Kern County trustees, USFWS, CDFG, and members of the public as advisors. The mitigation fees will provide for the acquisition and/or enhancement of natural lands and restorable lands for the purpose of creating preserves supporting the covered species. The MBHCP would also provide for reduction of take within the developed areas through relocation or displacement of individuals in areas affected by development. In addition, the MBHCP provides for monitoring of the quality of habitat within the preserves, the status of special-status species, and habitat restoration and enhancement programs, which will be used to indicate the success or failure of the plan.

The Karpe Development Project site is located within the boundaries of the Metropolitan Bakersfield Habitat Conservation Plan. The MBHCP provides incidental take authorization for four special-status species that are known to occur within the plan area. The MBHCP requires payment of a mitigation fee for all new development that necessitates a grading permit or conditional use permit on previously undeveloped land, which includes agricultural land.

**Summary of Take Minimization Measures as Excerpted from the Metropolitan Bakersfield Urban Development Incidental Take Permit #2081-2013-058-04, as Amended**

This attachment contains a summary of the take minimization measures excerpted from the Metropolitan Bakersfield Urban Development Incidental Take Permit (ITP). These measures (also known as Conditions of Approval) are generally applicable to all projects within the area of coverage of the ITP, but actual applicability to any specific project is dependent upon findings of site-specific surveys as defined in 7.1 and 7.4 below. These measures and additional measures can be found in the body of the ITP and ITP amendment.

**7. TAKE MINIMIZATION MEASURES:**

The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

7.1. Biological Clearance Survey. Prior to either Permittee issuing a Permittee Authorization to a Developer, the Developer applying for such Permittee Authorization shall provide a written Biological Clearance Survey conducted by a CDFW-approved Qualified Wildlife Biologist (Condition of Approval 5.10), no more than 30 calendar days prior to a Developer beginning Covered Activities on a given Permittee-authorized project. The Biological Clearance Survey shall include full coverage transect surveys for SJKF dens (See Condition of Approval 7.4, below), kangaroo rat burrows (in areas identified in Condition of Approval 7.8, below), and Bakersfield cactus (for proposed projects north of State Route (SR) 58 and east of SR 99), in the proposed development footprint and a buffer zone of 50 feet in size beyond the proposed development footprint (except for any portions of the buffer zone that are already fully developed or are beyond the access rights of the developer). The Biological Clearance Survey shall be valid for no more than 30 calendar days. In the event that Covered Activities are not initiated, as authorized by either Permittee, within 30 calendar days of a Biological Clearance Survey, the Biological Clearance Survey shall be repeated. Each Developer pursuing a Permittee Authorization shall bear the costs of the Biological Clearance Survey being conducted and summarized in writing.

7.2. Covered Species Detection. If one or more of the "Conditions" described below in Table 1 is detected during the Biological Clearance Survey (Condition of Approval 7.1) for any proposed Developer project, Permittees shall either: (1) not grant a Permittee Authorization for said Developer project until implementation of the Table 1 referenced "Required Minimization Measures" is demonstrated by the Developer in writing to the



Permittees; or (2) any issued Permittee Authorization shall require, via specific written conditions within the Permittee Authorization, that the start of grading/building activities may not occur until implementation of the Table 1 referenced "Required Minimization Measures" are demonstrated in writing to the Permittees.

**Table 1. Conditions within Proposed Development Footprint**

Condition Within Proposed Development Footprint	Required Minimization Measures
Known, active, or natal SJKF den	Conditions of Approval 7.5 and 7.6
Kangaroo rat burrows (Conceptual Southwest Focus Area only)	Conditions of Approval 7.8, 7.9, and 7.10
One or more Bakersfield cactus clumps/plants	Conditions of Approval 7.11, 7.12, and 7.13

- 7.3. **Developer Notification of Covered Species Detection.** For Developer projects on which one or more of the Table 1 "Condition within Proposed Development Footprint" (Condition of Approval 7.2) are present, Permittees shall require the Developer to provide CDFW and Permittees with a written "Notice of Grading Start" at least 5 business days prior to ground disturbance. Such a "Notice of Grading Start" shall only be submitted after all "Required Minimization Measures" referenced in Table 1 are implemented for that specific Developer project. The "Notice of Grading Start" shall include, at a minimum, the following information: (1) project location, including a map and major cross streets; (2) project name; (3) Developer name and contact information (phone, email, and mailing address); (4) name of the Qualified Wildlife Biologist that conducted the Biological Clearance Survey; (5) a copy of the Biological Clearance Survey; and (6) written information submitted to demonstrate compliance with Condition of Approval 7.2, 7.5, 7.6 and 7.8-7.13, as applicable. Developer should keep as a record proof of their notification to CDFW.

In addition to the Biological Clearance Survey as required in Condition of Approval 7.1, SJKF den surveys shall be annually conducted each January if Covered Activities are not completed at a Project site, to identify any SJKF that may have occupied the site after completion of the Biological Clearance Survey and to maximize detection of potential natal dens. The Developer shall provide CDFW and Permittees with a written report by February 5th that includes at a minimum the following information: (1) project location, including a map and major cross streets; (2) project name; (3) Developer name and contact information (phone, email, and mailing address); (4) name of the Designated Biologist that conducted the SJKF den survey; (5) a copy of the Biological Clearance Survey as required in Condition of Approval 7.1; and (6) written information submitted to demonstrate compliance with Conditions of Approval 7.2, 7.5, 7.6 and 7.8 through 7.13, as

applicable. Developer should keep as a record proof of their notification to CDFW. Each Developer shall bear the costs of implementing the SJKF Den Surveys.

- 7.4. SJKF Den Survey. SJKF Den Surveys shall evaluate the proposed development footprint and a 50 foot buffer zone (except for any portions of the buffer zone that are already fully developed) for potential, known, active, atypical, and natal SJKF dens, as defined in the Service 2011 "*Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance.*"
- 7.5. SJKF Den Avoidance. If a known, active, or natal SJKF den is discovered during the SJKF Den Survey/Biological Clearance Survey, the Permittees shall not issue a Permittee Authorization unless the Developer demonstrates that they established a permanent minimum buffer using fencing or flagging as follows: (1) at least 100 feet around den(s); (2) at least 200 feet around natal dens (dens in which SJKF young are reared); and (3) at least 500 feet around any natal dens with pups (except for any portions of the buffer zone that are already fully developed). Buffer zones shall be considered Environmentally Sensitive Areas, and no Covered Activities are allowed within a buffer except per Condition of Approval 7.6., and as follows: If the work within the buffer area will not result in the destruction of the den, the den should be conserved. If the den is unoccupied (based on the required four consecutive days of monitoring), then the den can be covered in a secure manner to prevent access by SJKF while the work is being conducted. After the work is done, the den can be uncovered to allow use by SJKF. If the den is occupied and the SJKF don't want to leave, then a smaller buffer could be established, including a barricade to prevent the SJKF from exiting the den and entering the work site. A qualified biologist shall monitor the den while the work is being conducted. Permittees shall notify the Service and CDFW's Regional Representative immediately via telephone or e-mail if any SJKF active dens, natal dens, or occupied atypical dens are discovered within or immediately adjacent to any proposed development footprint. Each Developer pursuing a Permittee Authorization shall bear the costs of implementing the SJKF den avoidance requirements.

A reduced SJKF den avoidance buffer may be authorized with written approval by CDFW. Buffer reduction requests shall be submitted by the Designated Biologist and describe why a reduced buffer will not impact SJKF. CDFW may add additional minimization measures as a condition of any buffer reduction approval; these additional CDFW specified minimization measures shall be followed by the Developer that proposed the buffer reduction.

- 7.6. SJKF Den Excavation. For active dens and potential dens that exhibit signs of SJKF use or characteristics suggestive of SJKF dens (including dens in natural substrate and in/under man-made structures) that cannot be avoided as per Condition of Approval 7.5, and if, after four consecutive days of monitoring with tracking medium or infrared camera, a Qualified Wildlife Biologist has determined that SJKF is not currently present, the den may be excavated. Natal dens shall not be excavated until the pups and adults have vacated and

then only after consultation with the Service and CDFW. If the excavation process reveals evidence of current use by SJKF then den excavation shall cease immediately and tracking or camera monitoring as described above shall be conducted/resumed. Excavation of the den may be completed when, in the judgment of a Qualified Wildlife Biologist, the SJKF has escaped from the partially excavated den. SJKF dens shall be carefully excavated until it is certain no individuals of SJKF are inside. Dens shall be fully excavated, filled with dirt, and compacted to ensure that SJKF cannot reenter or use the den during Covered Activities. If an individual SJKF does not vacate a den within the proposed construction footprint within a reasonable timeframe, Permittees shall contact the Service and CDFW and get written guidance (email will suffice) from both agencies prior to proceeding with den excavation. Each Developer pursuing a Permittee Authorization shall bear the costs of implementing the SJKF den excavation requirements.

- 7.7. SJKF Detection on Construction Site. Permittees shall condition all Permittee Authorizations to require notification to the appropriate Permittee and CDFW within 24 hours in the event that a SJKF is observed denning or utilizing structures or materials within an active construction footprint. In addition, a minimum 100 foot no disturbance buffer from the area being used by SJKF as a denning site shall be implemented until Conditions of Approval 7.5 or 7.6 can be implemented by a Qualified Wildlife Biologist funded by the Developer.
- 7.8. TKR Trapping and Salvage. If the Biological Clearance Survey prepared pursuant to Condition of Approval 7.1 identifies TKR burrows within the proposed construction footprint of proposed Developer projects within the "Conceptual Southwest Focus Area" as identified in Figure 4 of the MBHCP, Permittees shall not issue a Permittee Authorization until a TKR Qualified Biologist (see Condition of Approval 5.11) conducts a minimum of five (5) consecutive nights of live small mammal trapping, with high trap densities focused at and around TKR burrows, runways, seed caches, and dust baths. How and where captured animals will be held and the final release location and specifics shall be in accordance with a CDFW-approved TKR Relocation Plan prepared in accordance with Condition of Approval 6.8. The Developer for which the Biological Clearance Survey was conducted shall bear the costs of TKR trapping, salvage, and relocation.
- 7.9. TKR Burrow Excavation. Following live trapping activities conducted in accordance with Condition of Approval 7.8, any potential TKR burrows (e.g., any kangaroo rat burrows) present within the development footprint shall be fully excavated by hand by the TKR Qualified Biologist. The TKR Qualified Biologist shall relocate any TKR encountered in the excavated burrows to the release site(s) identified in the CDFW-approved TKR Relocation Plan prepared in accordance with Condition of Approval 6.8. The TKR Qualified Biologist shall also collect and move dormant or torpid TKR encountered to an artificial burrow installed at the release site(s) identified in the CDFW-approved TKR Relocation Plan prepared in accordance with Condition of Approval 6.8.

- 7.10. TKR Record of Handling. TKR Qualified Biologist(s) shall maintain a record of all TKR handled. This information shall include for each animal: (1) the locations (Global Positioning System (GPS) coordinates and maps) and time of capture and/or observation as well as release; (2) sex; (3) approximate age (adult/juvenile); (4) weight; (5) general condition and health, noting all visible conditions including gait and behavior, diarrhea, emaciation, salivation, hair loss, ectoparasites, and injuries; and (6) ambient temperature when handled and released. A Relocation Summary shall be prepared by the TKR Qualified Biologist and submitted by the Developer to the Permittees and CDFW as part of the information accompanying the "Notice of Grading Start" described in Condition of Approval 7.3.
- 7.11. Bakersfield Cactus Avoidance. If the Biological Clearance Survey prepared pursuant to Condition of Approval 7.1 identifies Bakersfield cactus within the proposed construction footprint of a proposed Developer project, Permittees shall not issue a Permittee Authorization until the Developer demonstrates that all Bakersfield cacti shall be avoided by a minimum of 25 feet, unless  
Condition of Approval 7.13 is implemented. This avoidance distance may be lessened on a specific case-by-case basis if CDFW concurs in writing that a modified distance proposed by a Bakersfield Cactus Qualified Botanist (Condition of Approval 5.12) is sufficient to avoid direct or indirect take of Bakersfield cactus.
- 7.12. Bakersfield Cactus Avoidance Fencing. Sturdy, highly visible, plastic construction avoidance fencing (or comparable fencing approved in writing by the CDFW Regional Representative) shall be installed around Bakersfield cactus avoidance areas (Condition of Approval 7.11) and located in accordance with direction from the Bakersfield Cactus Qualified Botanist. Fencing shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing shall be inspected at least twice weekly during the construction period. Fencing shall be removed upon completion of construction of the Developer project.
- 7.13. Bakersfield Cactus Translocation. The Bakersfield Cactus Qualified Botanist shall translocate Bakersfield cactus, which cannot be avoided by construction activities in accordance with Condition of Approval 7.11, to the nearest suitable habitat specifically identified in the Bakersfield Cactus Translocation Plan (Condition of Approval 6.9) prior to disturbance of any Bakersfield cacti. Translocated cacti shall be planted in habitat that Permittees have proven to be suitable for Bakersfield cactus by demonstrating that Bakersfield cactus occurs naturally at the same general location and the plantable area has suitable soils, vegetation, and other aspects to support a self-sustaining population of Bakersfield cactus. The density of plantings shall not exceed densities that occur naturally in the vicinity of the Project. Pads shall be taken from the translocated clumps of cacti and planted in the receiver sites to increase the number of plants.

- 7.14. Covered Species Injury. If a Covered Species is injured as a result of Project related activities, a Qualified Wildlife Biologist shall immediately take it to a CDFW approved wildlife rehabilitation or veterinary facility that routinely evaluates and treats the injured Covered Species. Permittees shall identify the potential facilities before starting Covered Activities. The Developer or appropriate Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. The Permittee with jurisdiction shall notify CDFW of the injury to the Covered Species immediately by telephone and e-mail followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident and the name of the facility where the animal was taken.
- 7.15. Daily Entrapment Inspections. Permittee Authorizations shall require that workers on Developer projects shall inspect all open holes, sumps, and trenches within the development footprint covered by the Permittee Authorization at the beginning, middle, and end of each day for trapped Covered Species. All trenches, holes, sumps, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and that are between two- and eight feet deep shall be covered when workers or equipment are not actively working in the excavation, which includes cessation of work overnight, or shall have an escape ramp of earth or a non-slip material with a less than 1:1 (45 degree) slope. All trenches, holes, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and greater than eight feet deep shall be covered when workers or equipment are not actively working in the excavation and at the end of each work day. Trenches, holes, sumps, or other excavations that are covered long term shall be inspected at the beginning of each working day to ensure inadvertent entrapment has not occurred. If any worker discovers that Covered Species have become trapped, the Developer and their workers shall cease all Covered Activities in the vicinity and notify Permittees immediately, whom shall in turn notify CDFW immediately. Developer and its workers shall allow the Covered Species to escape unimpeded if possible before Covered Activities are allowed to continue, or, alternatively, a Qualified Wildlife Biologist shall capture and relocate the animal, in accordance with CDFW direction regarding the final disposition of the animal. The Developer for which the Biological Clearance Survey was conducted shall bear the costs of Covered Species salvage.
- 7.16. Materials Inspection. Permittee Authorizations shall require that workers on Developer projects thoroughly inspect for Covered Species in all construction pipe, culverts, or similar structures with a diameter of 7.6 centimeters (three inches) or greater that are stored for one or more overnight periods before the structure is subsequently moved, buried, or capped. If during inspection one of these animals is discovered inside the structure, workers shall notify Permittees and allow the Covered Species to safely escape that section of the structure before moving and utilizing the structure. In the event that Permittees are notified of such an incident, Permittees shall notify CDFW in writing (via email will suffice) within 48 hours of the incident.

- 7.17. Equipment Inspection. Permittee Authorizations shall require that workers shall inspect for Covered Species under vehicles and equipment before the vehicles and equipment are moved. If a Covered Species is present, the worker shall wait for the Covered Species to move unimpeded to a safe location. Alternatively, the Developer shall contact a Qualified Wildlife Biologist to determine if they can safely move the Covered Species out of harm's way in compliance with this ITP.
- 7.18. Sump Surveys. Permittees shall be allowed to train personnel/staff to inspect work areas and buffer zones prior to Operations and Maintenance (O&M) activities in sumps or other similar features to make determinations if there are any potential (as defined in the Service 2011 "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance") den sites. If potential den sites are observed, a Qualified Wildlife Biologist shall conduct a SJKF den survey in accordance with Condition of Approval 7.4 prior to any O&M activities being conducted in sumps or other similar features within the Project Area by either Permittee. If a known, active, or natal SJKF den is discovered during the SJKF Den Survey, the O&M work shall not proceed unless the Public Works Department (or other Permittee department conducting the O&M work) demonstrates to the appropriate Designated Representative that either: (1) den avoidance will occur as per Condition of Approval 7.5; or (2) den excavation has occurred in accordance with Condition of Approval 7.6.



## **APPENDIX B**

### **REPRESENTATIVE PHOTOGRAPHS OF THE *KARPE DEVELOPMENT PROJECT***



**Photograph 1:** Southwest corner of Project site, along Kern Island Canal, facing north.

GPS Coordinates: 35.266975°N, -119.02087°W.

Photograph taken by Shannon Gleason on September 26, 2019



**Photograph 2:** Southwest corner of Project site, facing drainage water along SR 119, facing west.

GPS Coordinates: 35.266975°N, -119.02087°W.

Photograph taken by Shannon Gleason on September 26, 2019





**Photograph 3:** Northwest corner of BSA, facing southeast.  
GPS Coordinates: 35.269304°N, -119.020790°W.  
Photograph taken by Shannon Gleason on September 26, 2019



**Photograph 4:** Northwest corner of BSA, facing east.  
GPS Coordinates: 35.269304°N, -119.020790°W.  
Photograph taken by Shannon Gleason on September 26, 2019





**Photograph 5:** Northeast corner of Project site, facing southwest.  
GPS Coordinates: 35.268603°N, -119.016675°W.  
Photograph taken by Shannon Gleason on September 26, 2019



**Photograph 6:** Northeast corner of Project site, facing south.  
GPS Coordinates: 35.268603°N, -119.016675°W.  
Photograph taken by Shannon Gleason on September 26, 2019





**Photograph 7:** Southeast corner of Project site, facing north.  
GPS Coordinates: 35.266914°N, -119.016728°W.  
Photograph taken by Shannon Gleason on September 26, 2019



**Photograph 8:** Southeast corner of Project site, facing northwest.  
GPS Coordinates: 35.266914°N, -119.016728°W.  
Photograph taken by Shannon Gleason on September 26, 2019





**Photograph 9:** Potential SJKF natal den located in the center of the Project site.

GPS Coordinates: 35.267740°N, -119.019089°W.

Photograph taken by Shannon Gleason on September 26, 2019



**Photograph 10:** Potential SJKF natal den located in the center of the Project site.

GPS Coordinates: 35.267740°N, -119.019089°W.

Photograph taken by Shannon Gleason on September 26, 2019





**Photograph 11:** Old prey remains found outside potential SJKF natal den.

GPS Coordinates: 35.267740°N, -119.019089°W.

Photograph taken by Shannon Gleason on September 26, 2019



**Photograph 12:** Cliff swallow nests observed under Kern Island Canal bridge.

GPS Coordinates: 35.267740°N, -119.019089°W.

Photograph taken by Shannon Gleason on September 26, 2019

**APPENDIX C**

**PLANT AND ANIMAL SPECIES OBSERVED WITHIN THE BIOLOGICAL STUDY AREA  
KARPE DEVELOPMENT PROJECT**

**Table C-1  
Plant Species Observed within the Biological Study Area on September 26, 2019.  
Karpe Development Project, Kern County, California**

Scientific Name	Common Name	Native or Introduced
<b>Trees</b>		
<i>Cupressus sempervirens</i>	Italian cypress	Introduced
<i>Eucalyptus camaldulensis</i>	red gum eucalyptus	Introduced; Cal-IPC Limited
<i>Liquidambar styraciflua</i>	sweetgum	Introduced
<b>Shrubs</b>		
<i>Atriplex polycarpa</i>	allscale saltbush	Native
<b>Herbs</b>		
<i>Amaranthus albus</i>	pigweed amaranth	Introduced
<i>Amsinckia menziesii</i>	fiddleneck	Native
<i>Eclipta prostrata</i>	false daisy	Native
<i>Erigeron sumatrensis</i>	tropical horseweed	Introduced
<i>Lactuca serriola</i>	prickly lettuce	Introduced
<i>Medicago sativa</i>	alfalfa	Introduced
<i>Rumex crispus</i>	curly dock	Introduced; Cal-IPC Limited
<i>Salsola tragus</i>	Russian thistle	Introduced; Cal-IPC Limited
<i>Sisymbrium irio</i>	London rocket	Introduced; Cal-IPC Limited
<i>Tribulus terrestris</i>	puncture vine	Introduced; Cal-IPC Limited
<b>Grasses</b>		
<i>Avena fatua</i>	wild oat	Introduced; Cal-IPC Moderate
<i>Bromus diandrus</i>	ripgut brome	Introduced; Cal-IPC Moderate
<i>Bromus madridensis ssp. rubens</i>	red brome	Introduced; Cal-IPC High
<i>Chloris virgate</i>	feather fingergrass	Introduced
<i>Cynodon dactylon</i>	Bermuda grass	Introduced; Cal-IPC Moderate
<i>Echinichloa colona</i>	jungle rice	Introduced
<i>Hordeum murinum</i>	foxtail barley	Introduced; Cal-IPC Moderate
<i>Sorghum halepense</i>	Johnsongrass	Introduced

Table C-2  
Animal Species Observed within the Biological Study Area on September 26, 2019.  
Karpe Development Project, Kern County, California

Scientific Name	Common Name	Native or Introduced
<b>Amphibians and Reptiles</b>		
<i>Lithobates catesbeianus</i>	American bullfrog	Introduced
<i>Uta stansburiana</i>	side-blotched lizard	Native
<b>Birds</b>		
<i>Anas platyrhynchos</i>	mallard	Native
<i>Aphelocoma californica</i>	California scrub jay	Native
<i>Calypte anna</i>	Anna's hummingbird	Native
<i>Cathartes aura</i>	turkey vulture	Native
<i>Charadrius vociferous</i>	killdeer	Native
<i>Corvus corax</i>	common raven	Native
<i>Mimus polyglottos</i>	northern mockingbird	Native
<i>Petrochelidon pyrrhonota</i>	American cliff swallow	Native
<i>Poocetes gramineus</i>	vesper sparrow	Native
<i>Streptopelia decaocto</i>	Eurasian collared dove	Introduced
<i>Sturnella neglecta</i>	western meadowlark	Native
<b>Mammals</b>		
<i>Canis familiaris</i>	domestic dog*	Introduced
<i>Spermophilus beecheyi</i>	California ground squirrel*	Native
<i>Sylvilagus audubonii</i>	desert cottontail*	Native
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox*	Native

\* Indicates that only sign (e.g., dens or burrows, scat, prey remains, tracks) of the species was observed

## **APPENDIX D**

### **SPECIAL-STATUS SPECIES DATABASE SEARCH RESULTS FOR THE KARPE DEVELOPMENT PROJECT**

**Table D-1**  
**Special-Status Plant Species in the Regional Vicinity of the Project Site,**  
**Karpe Development Project, Kern County, California**

Scientific Name Common Name	Status Fed/State ESA CRPR/CDFW	Habitat Requirements	Potential to Occur	Rationale
<b>Sensitive Natural Communities</b>				
Great Valley Cottonwood Riparian Forest	-/- -/S1.1	This community requires fine-grained alluvial soils adjacent to perennial or semi-perennial streams with frequent flooding and with permanent ground water in the tree root zone.	None	Suitable habitat absent from the Project. Nearest CNDDDB occurrence is approximately 6.7 miles northwest of the Project (EONDX 28906).
Great Valley Mesquite Scrub	-/- -/S3.1	This community is composed of an open woodland or savanna dominated by <i>Prosopis glandulosa torreyana</i> and <i>Atriplex polycarpa</i> . Understories are grassy in good rainfall years, though usually dominated by introduced annuals. This community is found in sandy loams of alluvial origin, often with wind-modified microtopography. Mesquite requires a high-water table. Sierra snowmelt provided the necessary groundwater for the perennial phreatophytes.	None	Suitable habitat absent from the Project. Nearest CNDDDB occurrence is approximately 7.8 miles southwest of the Project (EONDX 28800).
Valley Saltbush Scrub	-/- -/S2.1	This community consists of open, gray or blue-green chenopod scrubs, usually over a low herbaceous annual understory. Cover types dominated by <i>Atriplex polycarpa</i> or <i>Atriplex spinifera</i> are differentiable. Also consists of sandy to loamy soils without surface alkalinity. Usually found on rolling, dissected alluvial fans.	None	Suitable habitat absent from the Project. Nearest CNDDDB occurrence is approximately 2.6 miles southeast of the Project (EONDX 16319).
<b>Plants</b>				

## Appendix D – Special-Status Database Search Results

<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	-/- 1B.1/-	Found in meadows and seeps, alkali playas, wetlands, and along lake margins at elevations between 200 and 1,000 feet. It blooms from May to September.	None	Suitable habitat absent from the Project. The most recent CNDDDB occurrence is from 2003 and is approximately 8.8 miles northwest of the Project (EONDX 70413).
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	-/- 1B.2/-	Found in alkali grasslands on saline and alkaline soils in and around scald areas. Found in chenopod scrub and valley and foothill grassland habitats.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 10 miles southwest of the Project (EONDX 90916).
<i>Atriplex coronota</i> var. <i>coronata</i> Lost Hills crownscale	-/- 1B.2/-	Found in dried ponds and alkaline soils in vernal pools, chenopod scrub, and valley and foothill grassland habitats. Grows in association with <i>Frankenia</i> ( <i>Frankenia</i> spp.), saltbush ( <i>Atriplex</i> spp.), and saltgrass ( <i>Distichlis</i> spp.).	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 9.4 miles southwest of the Project (EONDX 76184).
<i>Atriplex tularensis</i> Bakersfield smallscale	-/- 1A/-	This annual herb occurs in chenopod scrub. This annual flowers between June and October and it ranges in elevation from 295 to 656 feet.	None	Suitable habitat absent. The nearest CNDDDB occurrence is approximately 0.9 miles northeast of the Project (EONDX 2522), is from 1921, and extirpated.
<i>Caulanthus californicus</i> California jewelflower	FE/SE 1B.1/-	This annual herb is endemic to California and is found in chenopod scrub, valley and foothill grasslands, and pinyon-juniper woodlands, generally on non-alkaline, sandy soil. It flowers between February and May, and it ranges in elevation from 200 to 3,300 feet.	None	Suitable habitat absent. The nearest CNDDDB occurrence is approximately 10 miles northwest of the Project (EONDX 20291), is from 1900, and extirpated.
<i>Chloropyron molle</i> ssp. <i>hispidum</i> hispid salty bird's-beak	-/- 1B.1/-	Found in meadows and seeps, alkali playas, wetlands, and valley and foothill grasslands, in damp alkaline soils, often with saltgrass, at elevations under 500 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 5 miles east of the Project (EONDX 90916), from 1946, and is likely extirpated.
<i>Delphinium recurvatum</i> recurved larkspur	-/- 1B.2/-	This perennial plant is commonly found in chenopod scrub, valley and foothill grassland and cismontane woodland. It is most common on sandy or clay alkaline soils. It flowers from	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 8 miles northwest of the Project (EONDX 51922) and is possibly extirpated.



## Appendix D – Special-Status Database Search Results

		March to May, and it ranges in elevation from 10 to 2,592 feet.		
<i>Eremalche parryi</i> ssp. <i>kernensis</i> <i>Kern mallow</i>	FE/- 1B.2/-	This annual is endemic to California and occurs in chenopod scrub, valley and foothill grasslands, and pinyon and juniper woodlands, on dry, open, sandy to clay soils, at elevations between 200 and 4,300 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 5.3 miles south of the Project (EONDX 107405).
<i>Eriastrum hooveri</i> Hoover's eriastrum	DL/- 1B.1/-	This annual can be found in gravelly soil, with Chenopod scrub and in valley and foothill grassland. The blooming period for this plant March to July.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 10 miles southwest of the Project (EONDX 71517) and is from 1939 and extirpated.
<i>Escholzia lemmonii</i> ssp. <i>kernensis</i> Tejon poppy	-/- 1B.1/-	Annual plant found in open valley and foothill grasslands and chenopod scrub at elevations between 450 and 4,500 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 10 miles north of the Project (EONDX 101748)
<i>Imperata brevifolia</i> <i>California satintail</i>	-/- 2B.1/-	This perennial grass occurs in wet meadows and seeps within chaparral, Coastal Sage Scrub, or Creosote Bush Scrub communities. These communities are typically composed of mesic or alkali soils. This grass flowers between September and May, at elevations up to 4,000 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 9.8 miles northwest of the Project (EONDX 2766)
<i>Layia leucopappa</i> <i>Comanche Point layia</i>	-/- 1B.1/-	This annual plant is found in chenopod scrub and valley and foothill grasslands in dry clay soils, often with weedy grasses, at elevations between 300 and 1,000 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 10 miles northeast of the Project (EONDX 42610)
<i>Monolopia congdonii</i> <i>San Joaquin woollythreads</i>	FE/- 1B.2/-	This annual herb prefers chenopod scrub, and/or valley and foothill grassland. It flowers between February and May, and it ranges in elevation from 197 to 2,625 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 10 miles northeast of the Project (EONDX 42610)
<i>Navarretia setiloba</i> Piute Mountains navaretia	-/- 1B.1/-	Annual herb found in cismontane woodland, pinyon and juniper woodlands, and valley and foothill	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately

## Appendix D – Special-Status Database Search Results

		grasslands on clay or gravelly loam at elevations between 600 and 2,100 feet.		10 miles northeast of the Project (EONDX 56125) and is extirpated.
<i>Opuntia basilaris</i> var. <i>treleasei</i> Bakersfield cactus	FE/SE 1B.1/-	This perennial stem succulent plant occurs in chenopod scrub, valley and foothill grasslands and cismontane woodlands on sandy or gravelly soils. It flowers between April and May, and it ranges in elevation from 400 to 1,800 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 2.8 miles southwest of the Project (EONDX 116585)
<b>Invertebrates</b>				
<i>Branchinechta lynchi</i> vernal pool fairy shrimp	FT/- -/-	Occurs in a variety of vernal pool habitats that range from small, clear pools to large, turbid and alkaline pools; more common in pools less than 0.05 acre, typically as part of larger vernal pool complexes. Adults are active from early December to early May; pools must hold water for at least 18 days, the minimum to complete the life cycle if temperatures are optimal. Eggs are laid in the spring and persist through the dry season as cysts. Current distribution in California includes the Central Valley and coast ranges.	None	Suitable habitat absent. No CNDDDB occurrences within 10 miles of the Project.
<i>Danaus plexippus</i> Monarch – California overwintering population	-/- -/-	This butterfly occurs in various open habitats including fields, meadows, weedy areas, marshes, and roadsides. Adults make massive migrations from August to October, flying thousands of miles south to hibernate along the California coast and in central Mexico. The caterpillars feed on plants in the Milkweed family primarily Milkweeds ( <i>Asclepias</i> ), but also other genera including <i>Calotropis</i> , <i>Cynanchum</i> , <i>Gonolobus</i> , <i>Sarcostemma</i> , etc.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 8.5 miles north of the Project (EONDX 22801)

## Appendix D – Special-Status Database Search Results

<i>Lytta moesta</i> moestan blister beetle	-/- -/-	Previously a California Species of Special Concern. Often found on flowers of native plant species; may be associated with dried vernal pools. Distribution not well understood but known from the Central Valley, from Contra Costa County to Tulare and Kern Counties.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 9.7 miles northeast of the Project (EONDX 64442).
<i>Lytta morrisoni</i> Morrison's blister beetle	-/- -/-	Often found on flowers of native plant species and occasionally within dried vernal pools. Little is known of its life history, but its distribution is limited to the Central Valley of California.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 9.7 miles northeast of the Project (EONDX 64450).
<b>Mollusks</b>				
<i>Helminthoglypta callistoderma</i> Kern shoulderband	-/- -/-	This land snail, a terrestrial pulmonate gastropod, is a species that occurs in freshwater waterbodies. It is found along the lower Kern River canyon in the Kern River.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 7.3 miles northwest of the Project (EONDX 23090)
<b>Fish</b>				
<i>Hypomesus transpacificus</i> delta smelt	FT/SE -/-	Small fish endemic to the San Francisco Estuary and the larger Sacramento-San Joaquin Delta. Moves between freshwater and low-salinity water throughout the year; most spawning happens in tidally influenced backwater sloughs and channel edgewaters. Historical distribution did not extend beyond Mossdale on the San Joaquin River and Sacramento on the Sacramento River.	None	Suitable habitat absent and no CNDDDB occurrences within 10 miles of the Project.
<b>Amphibians</b>				
<i>Lithobates pipiens</i> northern leopard frog	-/- -/SSC	Highly aquatic species preferring permanent waters with abundant aquatic vegetation. Found in freshwater marshes, great basin flowing and standing waters, swamps, wet meadows, wetlands, canals, and	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 7.8 miles northeast of the Project (EONDX 74696), from an agricultural canal in 1956.

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		reservoirs at elevations up to 11,000 feet. The species is native to northern California, but most native populations are extinct; populations have been introduced in other locations throughout California, as they are used in laboratories and commercially for human consumption, and may have expanded their range via man-made waterways.		
<i>Rana draytonii</i> California red-legged frog	FT/- -/SSC	Occurs primarily in and near ponds in forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover; mostly in lower elevations; breeding habitat may be permanent or ephemeral; estivates in animal burrows or other moist refuges when ephemeral habitat is dry; endemic to California and northern Baja California; found throughout coastal California from Mendocino County south; inland distribution includes northern Sacramento Valley and foothills of Sierra Nevada south to Tulare County (possibly Kern County); elevation from sea level to 5,000 feet.	None	Suitable freshwater and upland habitat absent from the Project. There are no recorded CNDDB occurrences for this species within 10 miles of the Project.
<i>Spea hammondi</i> western spadefoot	-/- -/SSC	Species relies on vernal pools for breeding where predators cannot become established; open areas with sand or gravelly soils in a variety of habitats: grasslands, coastal scrub, woodlands, chaparral, sandy washes, lowland river floodplains, alkali flats, foothills, and mountains; endemic to California and northern Baja California; distribution from Redding south throughout Central Valley and foothills, throughout South Coast Ranges into coastal southern California	None	Suitable habitat absent. Nearest CNDDB occurrence is approximately 10 miles northeast of the Project (EONDx 30651) and is most likely extirpated.

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		to Transverse mountains and Peninsular mountains; elevation from sea level to 4,500 feet.		
Reptiles				
Anniella sp. California legless lizard	-/- -/SSC	Occurs in a variety of habitats, generally in moist, loose soils. Not all documented Anniella populations have been assigned a species designation and are recorded under genus only.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 4.8 miles south of the Project (EONDX 106920).
Anniella grinelli Bakersfield legless lizard	-/- -/SSC	Occurs in moist warm loose soil with plant cover, such as pine-oak woodland scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 6.7 miles northwest of the Project (EONDX 106892).
Arizona elegans occidentalis California glossy snake	-/- -/SSC	Appears to prefer microhabitats of open areas with soil loose enough for easy burrowing. Inhabits arid scrub, rocky washes, grasslands and chaparral.	None	Low quality habitat present, but not contiguous with any suitable habitat. CNDDDB occurrence from 1946 overlaps with Project (EONDX 105514), but habitat has been developed and severely degraded since.
Gambelia sila Blunt-nosed leopard lizard	FE/SE -/FP	Occurs in semiarid habitats within the southern Central Valley and Cuyama Valley; habitats typically are flat and have large open areas with scattered shrubs for refuge; uses small mammal burrows for shelter; spends most of year underground, surfacing in spring/early summer to breed and eat; hatchlings surface in fall to eat; may interbreed with long-nosed leopard lizard in Cuyama Valley; threatened by habitat loss/fragmentation and drought; elevation from 100-2,400 feet.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 9.4 miles west of the Project (EONDX 27824).
Masticophis flagellum ruddocki San Joaquin Coachwhip	-/- -/SSC	Inhabits open, dry habitats with little to no tree cover in the San Joaquin Valley, generally on level terrain.	None	Suitable habitat present, but not contiguous with suitable or occupied habitat. Nearest CNDDDB occurrence

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		Found in valley grassland and saltbush scrub with small mammal burrows, which it uses for refuge and to lay eggs.		is approximately 9.5 miles west of the Project (EONDX 66207).
<i>Thamnophis giga</i> giant garter snake	FT/ST -/-	Highly aquatic snake found in marshes and sloughs, drainage canals, and irrigation ditches; prefers vegetation close to water for basking; does not venture more than 200 feet from aquatic habitat; elevation from sea level to 400 feet; endemic to California; currently ranges from Glenn County to southern edge of San Francisco Bay Delta, and from Merced County to northern Fresno County.	None	Suitable habitat absent. There are no CNDDDB occurrences within 10 miles.
<b>Birds</b>				
<i>Agelaius tricolor</i> tricolored blackbird	-/ST -/SSC	Colonial breeder that prefers freshwater, emergent wetlands with tall, dense cattails or tules, but also thickets of willow, blackberry, wild rose, and tall herbs; breeding colonies are minimum ~50 pairs; forages in pastures, grain fields, and similar habitats near breeding areas. Occurs in densely vegetated valley and foothill grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes; favors native grasslands with a mix of grasses, forbs and scattered shrubs; loosely colonial when nesting; summer resident and breeding in west of Cascade-Sierra Nevada crest from Mendocino to Trinity counties, south to San Diego County; largely insectivorous.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 4.8 miles southeast of the Project (EONDX 99242).
<i>Ardea alba</i> great egret	-/- -/-	Found in estuaries, freshwater and brackish marshes, swamps, riparian forests, and wetlands. Rookeries are	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately

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		located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. This species is a colonial nester, building large stick nests in large trees or islands in lakes, lagoons, and estuaries.		3.1 miles southeast of the Project (EONDX 11975).
<i>Athene cunicularia</i> burrowing owl	BCC/- -/SSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Yes	Suitable foraging and nesting habitat present. May burrow in California ground squirrel burrows or San Joaquin kit fox den that are present on-site. Nearest CNDDDB occurrence is approximately 1.8 miles southeast of the Project (EONDX 68080)
<i>Buteo swainsoni</i> Swainson's hawk	-/ST -/-	Occurs in grassland, desert and agricultural landscapes in the Central Valley and Antelope Valley; hawks may be resident or migrant; breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; also observed breeding in large eucalyptus trees along freeways and in trees over rural residences surrounded by agriculture; may nest on ground if no suitable trees are available; nests are platform of sticks, bark, and fresh leaves at or near top of trees; breeds from late March to late August; forages in grassland, open scrub, and grain fields, primarily for rodents.	Yes	Suitable foraging habitat present on the Project and suitable nesting habitat in the vicinity. Nearest CNDDDB occurrence is approximately 2.1 miles south of the Project (EONDX 115317).
<i>Charadrius montanus</i> mountain plover	BCC/- -/SSC	Migratory shorebird that breeds in central United States and winters in southwest North America, including the Central Valley of California. Unlike most shorebirds this species is not found near coasts or bodies of water. Preferred habitats include shortgrass prairie, dry lowland areas, plowed fields, and bare soil. Eggs are laid	None	Suitable habitat absent. No CNDDDB occurrences within 10 miles of the Project.



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		directly on the ground in a depression, sometimes lined with grasses.		
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT/SE -/-	Nests in dense willow thickets in riparian forests, often mixed with cottonwoods, with a thick understory of brambles and vines including blackberry, nettles, and wild grape. The species is migratory and generally winters in woody lowland vegetation near freshwater. Populations numbers plummeted during the 20 <sup>th</sup> century, as native riparian habitat was lost due to water diversion, groundwater pumping, and conversion to agriculture and urban development.	None	Suitable habitat absent. No CNDDDB occurrences within 10 miles of the Project.
<i>Egretta thula</i> Snowy egret	-/- -/-	Occupies a variety of habitats, feeds in many types of permanently and seasonally flooded wetlands, lakes, swamps, and man-made habitats.	None	Suitable habitat absent. Nearest CNDDDB occurrence is approximately 3 miles southwest of the Project (EONDX 11976)
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	FE/SE -/-	Small migratory passerine that breeds in patches of riparian habitat in the American southwest and winters from Mexico to northern South America. Nests in dense riparian vegetation, usually willows but also other trees and shrubs such as a tamarisk, near surface water or saturated soil. Numbers have plummeted due to loss of riparian habitat, similar to the western yellow-billed cuckoo.	None	Suitable habitat absent. No CNDDDB occurrences within 10 miles of the Project.
<b>Mammals</b>				
<i>Ammospermophilus nelson</i> San Joaquin ground squirrel		Occurs in saltbush scrub and grassland habitats; prefers washes and open shrub areas with sandy soils; threatened by habitat loss and population fragmentation from agricultural development,	None	Suitable habitat absent. No CNDDDB occurrences within 10 miles of the Project.

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		urbanization, petroleum extraction, and excessive cattle grazing.		
<i>Dipodomys ingens</i> Giant kangaroo rat	FE/SE -/-	Found in annual grasslands in the western San Joaquin Valley, and in sparsely vegetated alkali scrub. Prefers generally flat terrain, and loose soils for burrowing.	None	Habitat is suitable but not contiguous with suitable or occupied habitat. Nearest CNDDDB occurrence is approximately 9.7 miles southwest of the Project.
<i>Dipodomys nitratooides</i> Tipton kangaroo rat	FE/SE -/-	Inhabits arid-land vegetative communities on level terrain within the floor of the Tulare Basin. Habitat consists of grassland, often interspersed with shrubs. This species tends to prefer soft, powdery soils with higher salinity to burrow. Current distribution is limited to scattered, isolated clusters west of Tipton, Pixley, and Earlimart and in areas in southern Kern County.	None	Habitat is suitable but not contiguous with suitable or occupied habitat. Nearest CNDDDB occurrence is from 2015 and approximately 7.2 miles southeast of the Project (CNDDDB 14581).
<i>Eumops perotis</i> Western mastiff bat	-/- -/SSC	Found in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	None	Suitable roosting habitat absent. Nearest CNDDDB occurrence is approximately 6.7 miles north of the Project (EONDX 66520)
<i>Lasiurus cinereus</i> Hoary bat	-/- -/-	Over its extensive range, can be found in a variety of habitat types, from deserts to tropical forests. It generally hunts around treetops, along streams and lakes, and in densely vegetated urban areas.	None	Suitable roosting habitat absent. Nearest CNDDDB occurrence is approximately 8.7 miles northwest of the Project (EONDX 66520), from 1894.
<i>Sorex ornatus relictus</i> Buena Vista Lake shrew	FE/- -/SSC	This species occurs in areas with a dense mesophytic, cover and an abundant layer of litter. Historically, it occupied Valley Freshwater Marsh near Buena Vista Lake. It has been identified in areas with dense wetland vegetative cover and an abundant layer of detritus.	None	Suitable habitat absent. No CNDDDB records within 10 miles.

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<i>Taxidea taxus</i> American badger	-/- -/SSC	Occurs mostly in open, drier stages of shrub, forest, and herbaceous habitats, with friable soils; feeds mostly on fossorial rodents; digs burrows for cover and reproduction; can dig new den each night; litters born mostly in March and April; somewhat tolerant of human activities but avoids cultivated agricultural habitats.	Yes	Suitable habitat present, although generally not contiguous with suitable habitat. Nearest CNDDDB occurrence is approximately 10 miles northeast of the Project (EONDX 74778).
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE/SE -/-	Occurs in arid to semi-arid grasslands, open shrublands, savannahs, and grazed lands with loose-textured soils; highly adaptable and documented in urban developed areas. Uses dens year-round; needs loose-textured sandy soils for burrowing and will use man-made structures such as culverts. Preys mainly on small mammals and will also scavenge for human food.	Present	Suitable habitat is present, and a natal den is on the Project.
<u>CRPR (California Rare Plant Rank):</u>			FE	Federally Endangered
1A	Presumed Extinct in California		FT	Federally Threatened
1B	Rare, Threatened, or Endangered in California and elsewhere		FC	Federal Candidate Species
2A	Plants presumed extirpated in California, but more common elsewhere		BCC	Federal Bird of Conservation Concern
2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere		SE	State Endangered
<u>CRPR Threat Code Extension:</u>			ST	State Threatened
.1	Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)		SC	State Candidate
			SS	State Sensitive
.2	Fairly endangered in California (20-80% occurrences threatened)		SSC	State Species of Special Concern
.3	Not very endangered in California (<20% of occurrences threatened)		SFP	State Fully Protected
			DL	Delisted
			WL	Watch List

**APPENDIX E**

**U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE  
ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE  
(USFWS 2011)**

**U.S. FISH AND WILDLIFE SERVICE  
STANDARDIZED RECOMMENDATIONS  
FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX  
PRIOR TO OR DURING GROUND DISTURBANCE**

Prepared by the Sacramento Fish and Wildlife Office  
January 2011

## INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. **However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act) and does not preclude the need for section 7 consultation or a section 10 incidental take permit for the proposed project.** Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). These protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

## IS A PERMIT NECESSARY?

**Certain acts need a permit from the Service which includes destruction of any known (occupied or unoccupied) or natal/pupping kit fox dens.** Determination of the presence or absence of kit foxes and /or their dens should be made during the environmental review process.

All surveys and monitoring described in this document must be conducted by a qualified biologist and these activities do not require a permit. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, the biologist(s) must be able to identify coyote, red fox,

gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount. Resumes of biologists should be submitted to the Service for review and approval prior to any survey or monitoring work occurring.

### SMALL PROJECTS

Small projects are considered to be those projects with small foot prints, of approximately one acre or less, such as an individual in-fill oil well, communication tower, or bridge repairs. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features and utilize this information as guidance to situate the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then surveys should be conducted and the Service should be contacted for technical assistance to determine the extent of possible take.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Kit foxes change dens four or five times during the summer months, and change natal dens one or two times per month (Morrell 1972). Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol). Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.

**If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.**

If the take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping den which may not be destroyed while occupied. A take authorization/permit is required to destroy these dens even after they are vacated. Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

## OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: Linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project and those requirements supersede any requirements found in this document.

## EXCLUSION ZONES

In order to avoid impacts, construction activities must avoid their dens. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances due to the length of dens underground. The following distances are **minimums**, and if they cannot be followed the Service must be contacted. Adult and pup kit foxes are known to sometimes rest and play near the den entrance in the afternoon, but most above-ground activities begin near sunset and continue sporadically throughout the night. Den definitions are attached as Exhibit A.

Potential den**	50 feet
Atypical den**	50 feet
Known den*	100 feet
Natal/pupping den (occupied <u>and</u> unoccupied)	Service must be contacted

**\*Known den:** To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Acceptable fencing includes untreated wood particle-board, silt fencing, orange construction fencing or other fencing as approved by the Service as long as it has openings for kit fox ingress/egress and keeps humans and equipment out. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

**\*\*Potential and Atypical dens:** Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited or greatly restricted within the exclusion zones.

## **DESTRUCTION OF DENS**

Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection.

**Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.**

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.

**Natal/pupping dens:** Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

**Known Dens:** Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use.

If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities.



**The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.**

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities shall cease and the Service shall be notified immediately.

## **CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS**

Habitat subject to permanent and temporary construction disturbances and other types of ongoing project-related disturbance activities should be minimized by adhering to the following activities. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting achievement of project goals. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 13 referenced below.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be

re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530)934-9309. The Service should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFG shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division  
2800 Cottage Way, Suite W2605  
Sacramento, California 95825-1846  
(916) 414-6620 or (916) 414-6600

**EXHIBIT “A” - DEFINITIONS**

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means " . . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.