Biological Resource Assessment of
APN 3114-010-011
Lancaster, California

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Abstract

Development has been proposed for APN 3114-010-011, Lancaster, California. The approximately 40 acre (16 ha) study area was located north of Avenue G and east of 30th Street West, T8N, R12W, the SW1/4 of the SW1/4 of Section 32, S.B.B.M. A line transect survey was conducted on 16, 20, and 21 October 2021 to inventory biological resources. The proposed project area was characteristic of a shadscale-alkali sacaton (*Atriplex confertifolia-Sporabolus airodes*) habitat association with clay pan and dune topography. A total of 35 plant species and 16 wildlife species or their sign were observed during the line transect survey. No desert tortoises (*Gopherus agassizii*) or their sign were observed during the field survey. The proposed project site was not located within the geographic range of the Mohave ground squirrel (*Xerospermophilus mohavensis*). No Mohave ground squirrels have been observed or documented within western Lancaster in the last 30 years. A burrowing owl (*Athene cunicularia*) was observed flying within the study site. A burrowing owl cover site with burrowing owl sign (pellets, small bones, feather, wash) was observed during the field survey. Two other potential burrowing owl cover sites with no distinct burrowing owl sign were observed within the study site. No desert kit foxes (*Vulpes macrotis)* were observed within the study site. A small amount of old desert kit fox scat was observed within the study site. No desert kit fox dens were observed within the study site. Vegetation within the study area provides potential nesting sites for smaller migratory birds. Swainson's hawk (*Buteo swainsoni*) and other raptors may fly over and use the site for forage but would not be expected to nest within the study area due to a lack of suitable nesting habitat. Swainson's hawk have been documented at Apollo Park to the northwest of the study area. Suitable habitat appeared to be present for Northern California legless lizards (*Anniella pulchra*). Skeletal remnants of Rosamond eriastrum (*Eriastrum rosamondense)* and alkali mariposa lily (*Calochortus striatus*) were observed within the study site. Habitat for both these plant species occurs throughout and adjacent to the study area. No other sensitive plants, specifically, Joshua tree (*Yucca brevifolia*), desert cymopterus (*Cymopterus deserticola*), or Barstow woolly sunflower (*Eriophyllum mohanense*) were observed during the field survey or expected due to the lack of suitable habitat. No other state or federally listed species are expected to occur within the proposed project area. The study site is located within the Amargosa Creek Drainage (ephemeral wash system). Ephemeral washes, and clay pans were observed throughout the study area.

Recommended Protection Measures:

The "Staff Report on Burrowing Owl Mitigation" will be applied to this study site (CDFG 2012). Coordination with the California Department of Fish and Wildlife (CDFW) will be accomplished prior to development of this study site.

The desert kit fox is a fully protected species and no take permits are available. If more recent sign of desert kit fox is observed prior to or during construction activities the "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, January 2011" will be used as guidelines for addressing desert kit fox issues (U.S. Fish & Wildlife Service 2011).

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet around active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Lake and Streambed Alteration Agreement (LSA) from the CDFW prior to development activities. This project will require consultation with CDFW to determine whether an LSA is required. A jurisdictional delineation of the wash system would be required as part of the LSA process. It would be determined through the LSA process whether mitigation for the wash system is required. Swainson's hawk, Northern California legless lizard, alkali mariposa lily and Rosamond eriastrum can be part of any wash mitigation and addressed during the LSA process. Consultation with Lahontan Water Quality Control Board (LWQCB) may be required to determine the need for a Section 401 water quality permit. This project may be able to use the LWQCB's General Permit R6T-2003-0004 for minor streambed/lakebed alteration projects because the federal Clean Water Act is not applicable.

Significance: This project could be considered a cumulatively significant adverse impact to biological resources, specifically to streambeds and sensitive plants, as this area is further developed. This impact could be lessened if sufficient protection measures for streambeds and sensitive plants are implemented on this and surrounding sites to maintain waterflow in the Amargosa Creek drainage system.

Development has been proposed for APN 3114-010-011 (Figure 1). Development would include installation of access roads, parking, and utilities (water, sewer, electric, etc.). The entire project area would be graded prior to construction activities.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within, or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), desert kit fox (*Vulpes macrotis)*, Northern California legless lizard (*Anniella pulchra*), Joshua tree (*Yucca brevifolia*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), Rosamond eriastrum (*Eriastrum rosamondense)*, and alkali mariposa lily (*Calochortus striatus*).

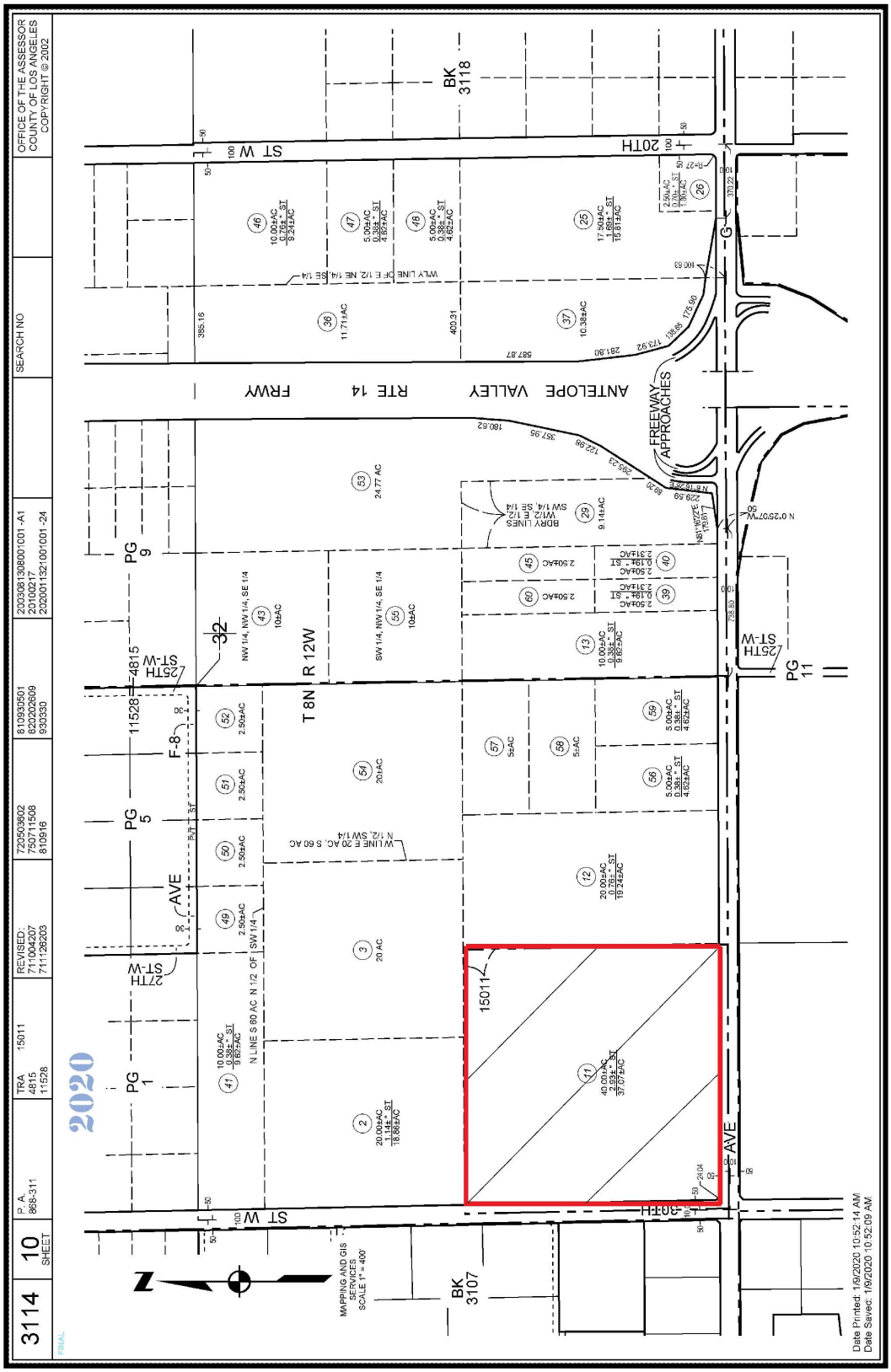

Figure 1. Location of proposed project site as depicted on APN map.

Study Area

The approximately 40 acre (16 ha) study area was located north of Avenue G and east of 30th Street West, T8N, R12W, the SW1/4 of the SW1/4 of Section 32, S.B.B.M. (Figures 2 and 3). The southern boundary of the project site was formed by Avenue G. Habitat similar to the study site existed south of Avenue G. The Antelope Valley Fairgrounds and Rite Aid Distribution Center was present approximately 2,640 feet (805 m) south of the study site. The western boundary was formed by 30th Street West. Similar habitat was present to the west of 30th Street West. Fox Field Airport and other commercial facilities were present approximately 1.25 miles (2 km) west of the study site. Apollo Park was present approximately 4,400 feet (1,300 m) to the northwest of the study site. Habitat similar to the study site was present along the northern and eastern boundaries. Topography of the site ranged from approximately 2,315 to 2,318 feet (706 to 707 m) above sea level.

Methods

A line transect survey was conducted to inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The USFWS (2010) has provided recommendations for survey methodology to determine presence/absence and abundance/distribution of desert tortoises. Line transects were walked in an east-west orientation. Line transects were approximately 1,360 feet (438.7 m) long and were spaced approximately 35 feet (11m) apart (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. Consistent with the survey protocol the entire site was surveyed and adjacent areas were evaluated (CDFG 2012). A habitat assessment was conducted for Mohave ground squirrels (MGS) to determine whether habitat was present for the species (CDFW 2019, Leitner and Leitner 2017).

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 7x35 and 10x42 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Lowrey 2006, Murie 1974). Historical aerial photographs and the USGS topographic map of the study area and surrounding vicinity were reviewed. Review of documented sightings was accomplished using the California Natural Diversity Database (CNDD) (Lancaster West 2020) and eBird.org. Previous surveys in the area (Hagan 2017a-b, 2020) were reviewed for historical sightings and background information. Photographs of the study site were taken (Figures 4 and 5).

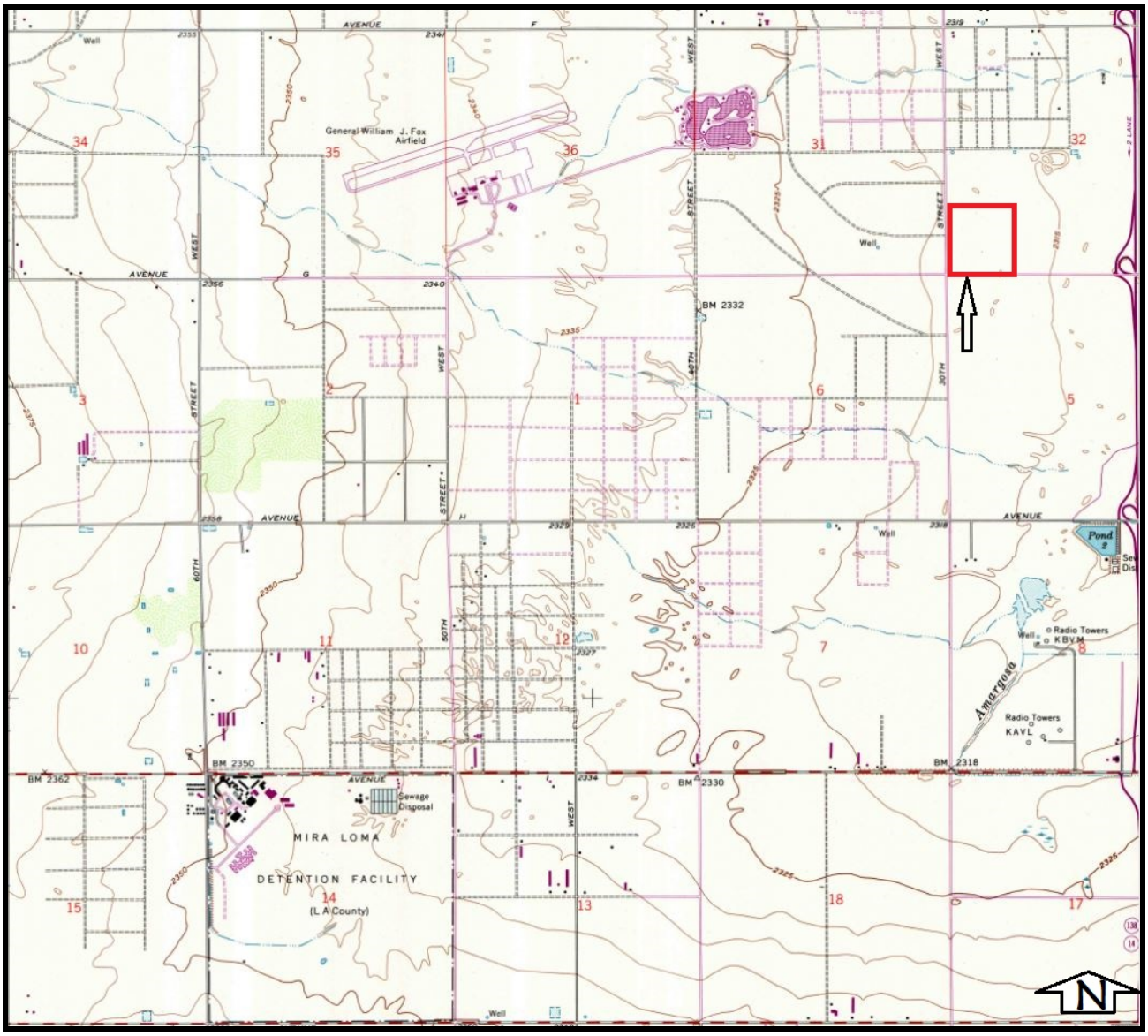

Figure 2. Approximate location of study area as depicted on U.S.G.S. Quadrangle, Lancaster West, Calif., 7.5', 1974.

Figure 3. Approximate location of study area showing surrounding land use as depicted on excerpt from Google Earth Aerial Photography, April 2017.

Figure 4. Representative photographs depicting general site characteristics.

Figure 5. Top is a representative photograph depicting general site characteristics. Bottom photograph is the occupied burrowing owl cover site.

Results

A total of 36 line transects were walked on 16, 20, and 21 October 2021. Weather conditions consisted of warm temperatures (estimated 75 degrees F), 0% cloud cover, and moderate winds on 16 October 2021. Weather conditions consisted of cool to warm temperatures (estimated 45 to 70 degrees F), 10% cloud cover, and no wind on 20 October 2021. Weather conditions consisted of cool to warm temperatures (estimated 40 to 70 degrees F), 50% cloud cover, and no wind on 21 October 2021. Clay sandy loam and silty clay surface soil textures were observed throughout the study area. No blue line streams were found on the USGS topographic map. The study site is within the Amargosa Creek Drainage (ephemeral wash system). Clay pans and interconnected washes were observed throughout the study area. Cryptobiotic soils were observed throughout the study area.

The proposed project area was characteristic of a shadscale-alkali sacaton (*Atriplex confertifolia-Sporabolus airodes*) habitat association with clay pan and dune topography (Barbour et al. 2007). A total of 35 plant species were observed during the line transect survey (Table 1). Shadscale (*Atriplex confertifolia*) was the dominant perennial shrub species throughout the study area. Mojave spineflower (*Chorizanthe spinosa*), schismus (*Schismus* sp.), and cheat grass (*Bromus tectorum*) were the dominant annual species throughout the study area. Alkali mariposa lily skeletons were observed within the study site. Suitable habitat for alkali mariposa lilies existed throughout the study site. Multiple observations of alkali mariposa lilies are noted in the CNDD for this general area. Rosamond eriastrum skeletons were observed in a previously pin flagged area within the study site. These were identified by Dave Charlton (botanist) during the survey. The CNDD indicated a population of Rosamond eriastrum approximately 3,525 feet (1,075 m) to the west of the study area. No Barstow woolly sunflowers, Joshua trees, or desert cymopterus, or suitable habitat were observed within the study site.

A total of 16 wildlife species, or their sign were observed during the line transect survey (Table 2). No desert tortoises or their sign were observed during the field survey. A burrowing owl and sign were observed within the study site during the field survey. Desert kit foxes were not observed within the study site. No bird nests were observed within the study site. No Northern California legless lizards were observed however suitable habitat appeared to be present within the study area.

Scattered litter and debris were observed primarily within the southern and western boundaries of the study site. Trash dumping was present along the west boundary of the study site. Off-road vehicle/heavy equipment tracks were observed within the study site. An open well (pvc) was observed within the study site. Historical cans and broken glass dump sites were observed within the study site.

Discussion

It is possible that some annual species were not visible during the time the field survey was performed (Table 3). Cryptogamic crusts are known by several labels such as cryptobiotic crusts, and lichen crusts. These crusts have an important niche in the environment but have not been well mapped. Aerial photography indicates habitat around the study area is similar to the

Table 1a. List of plant species that were observed during the line transect survey of APN 3114-010-011, Lancaster, California.

Common Name	Scientific Name
Shadscale	*Atriplex confertifolia*
Mojave Rabbit brush	*Chrysothamnus nauseosis mohavensis*
Nevada saltbush	*Atriplex torreyi*
Allscale	*Atriplex polycarpa*
Desert alyssum	*Lepidium fremontii*
Peachthorn	*Lycium cooperi*
Silverscale	*Atriplex argentea*
Inkweed	*Suaeda torreyana*
Alkali sacaton	*Sporobolus airodes*
Alkali pink	*Nitrophila occidentalis*
Desert straw	*Stephanomeria pauciflora*
Spotted buckwheat	*Eriogonum maculatum*
Angle-stem buckwheat	*Eriogonum angulosum*
Turkey mullein	*Eremocarpus setigerus*
Rosamond eriastrum	*Eriastrum rosamondense*
Alkali mariposa lily	*Calochortus striatus*
Mojave spineflower	*Chorizanthe spinosa*
Small flowered poppy	*Eschscholtzia minutiflora*
Woody bottlewasher	*Camissonia boothii*
Gilia	*Gilia minutiflora*
Common tarweed	*Hemizonia pungens*
Saltgrass	*Distichlis spicata*
Bud sage	*Artemisia spinescens*
Mojave stinkweed	*Cleomella obtusafolia*
Fiddleneck	*Amsinckia tessellata*
Pineapple weed	*Matricaria discoidea*
Annual burweed	*Franseria acanthicarpa*
Red stemmed filaree	*Erodium cicutarium*
Barb-wire tumble weed	*Salsola paulensii*
Russian thistle	*Salsola iberica*
Tumble mustard	*Sisymbrium altisissiimum*
Red brome	*Bromus rubens*
Cheatgrass	*Bromus tectorum*
Schismus	*Schismus* sp.
Foxtail barley	*Hordeum leporinum*
Mushroom spp.	Order: Fungi

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APN 3114-010-011, Lancaster, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
Pocket gopher	*Thomomys bottae*
Desert cottontail	*Sylvilagus auduboni*
Black-tailed jackrabbit	*Lepus californicus*
Coyote	*Canis latrans*
Desert kit fox	*Vulpes macrotis*
Domestic cat	*Felis* sp.
Owl sp.	Order: Strigiformes
Burrowing owl	*Athene cunicularia*
Common raven	*Corvus corax*
Sage sparrow	*Amphispiza belli*
White crowned sparrow	*Zonotrichia leucophrys*
Side blotched lizard	*Uta stansburiana*
Funnel spider	Order: Araneida
Grasshopper	Order: Orthoptera
Dragonfly	Order: Odonata

Table 3. List of plant and wildlife species that may occur within the study area, APN 3114-010-011, Lancaster, California.

Common Name	Scientific Name
Arrow scale	*Atriplex phyllostegia*
Hole-in-the-sand plant	*Nicolletia occidentalis*
Yellow pepper grass	*Lepidium flavum*
Yellow throats	*Phacelia fremontii*
Alkali popcorn flower	*Plagiobothrys leptocladus*
Goldfields	*Lasthenia californica*
Desert dandelion	*Malacothrix glabrata*
Six-weeks fescue	*Festuca octaflora*
Nevada blue grass	*Poa secunda*
Deer mouse	*Peromyscus maniculatus*
Kangaroo rat	*Dipodomys* sp.
Racoon	*Procyon lotor*
Gull sp.	Family: Laridae
Northern harrier	*Circus cyaneus*
Ferruginous hawk	*Buteo regalis*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
California quail	*Callipepla californica*
Mourning dove	*Zenaida macroura*
Swallow sp.	Family: Hirundinidae
Say's phoebe	*Sayornis saya*
Northern mockingbird	*Mimus polyglottos*
Horned lark	*Eremophila alpestris*
Western meadowlark	*Sturnella neglecta*
House finch	*Carpodacus mexicanus*
Mojave rattlesnake	*Crotalus scutulatus*
Gopher snake	*Pituophis melanoleucus*
Western whiptail	*Cnemidophorus tigris*
Northern California legless lizard	*Anniella pulchra*
Fairy Shrimp	*Branchinecta* spp.
Water boatman	Corixa sp.
Painted lady butterfly	*Vanessa cardui*
Cabbage white butterfly	*Pieris rapae*
Harvester ants	Order: Hymenoptera
Darkling beetle	*Coelocnemis californicus*
Moth	Order: Lepidoptera
Spider	Order: Araneida
Wolf spider	Order: Araneida
Ladybird beetle	*Hippodamia convergens*

study site and is likely to support cryptogamic crusts similar to the study site. Healthy cryptogamic crusts fix carbon and nitrogen and trap dust effectively preventing wind blown sand (Pietrasiak, 2015). These cryptogamic crusts have a high water holding capacity and enables moisture to be retained within the soils and used by desert vegetation for a longer period of time (Pietrasiak, 2015). Lichen morphological types (such as those on the study site) with a more discontinuous cover (crustose, squamulose) allow water, gases, and seedlings to pass through to the soil surface (Rosentreter, et.al, 2007). Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts are expected to increase as urban development continues to occur in the area. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are expected to survive, but they will have less cover and foraging habitat available. Sensitive plant species have expected to be extirpated as further water flow from upstream ephemeral washes is diverted.

The desert tortoise is a state and federally listed threatened species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project site was not located in critical habitat designated for the Mojave population of the desert tortoise. Based on field observations, desert tortoises are not present within the study area. No protection measures are recommended for desert tortoises.

The Mohave ground squirrel is a state listed threatened species by CDFW. The proposed project area was not located within the geographic range of the Mohave ground squirrel. The western limit of the geographic range of the Mohave ground squirrel is currently thought to be Highway 14. No Mohave ground squirrels have been documented in the past 30 years on the west side of Lancaster (CNDD 2020). No mitigation for this species is recommended.

Desert kit foxes are a fully protected species by California Department of Fish and Wildlife (CDFW). Although no desert kit foxes were observed within the study site, old desert kit fox scat was observed within the study site.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Swainson's hawk and other raptors would not nest within the study area given the lack of nesting sites. Swainson's hawk and other raptors may fly over and forage within the study site. Observations of Swainson's hawks have been documented regularly at Apollo Park located to the northwest of the study area (eBird 2020). Smaller migratory birds may potentially nest in the shrubs within the study site.

Burrowing owls are considered a species of special concern by the CDFW. A burrowing owl was observed within the study site along with one definitive cover site and two potential cover sites. The cover site currently being used had a sufficient amount of burrowing owl sign to indicate the burrowing owl had likely been present most of 2021.

Northern California legless lizards are considered a species of special concern by CDFW. The study site contains potentially suitable habitat for Northern California legless lizards.

The alkali mariposa lily, and Rosamond eriastrum are considered sensitive plant species by CDFW. Habitat for both species existed throughout and adjacent to the study area. Mitigation, if required, could be combined with any mitigation that may be required for ephemeral desert washes.

No other state or federally listed threatened or endangered species are expected to occur within the proposed project area (California Department of Fish and Wildlife 2019, 2020, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

The study site was located within the Amargosa Creek Drainage (ephemeral wash system). Ephemeral drainages and connecting clay pans occurred throughout the study site. Halophytic plant species, and cryptogamic crusts indicated sufficient water flows through and pools within the area to support this habitat type (Figure 4).

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

Recommended Protection Measures:

The "Staff Report on Burrowing Owl Mitigation" will be applied to this study site (CDFG 2012). Coordination with the California Department of Fish and Wildlife (CDFW) will be accomplished prior to development of this study site.

The desert kit fox is a fully protected species and no take permits are available. If more recent sign of desert kit fox is observed prior to or during construction activities the "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, January 2011" will be used as guidelines for addressing desert kit fox issues (U.S. Fish & Wildlife Service 2011).

If possible, removal of vegetation will occur outside the breeding season for migratory birds. Breeding generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all potential nesting areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet around active migratory bird species nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

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process. It would be determined through the LSA process whether mitigation for the wash system is required. Swainson's hawk, Northern California legless lizard, alkali mariposa lily and Rosamond eriastrum can be part of any wash mitigation and addressed during the LSA process. Consultation with Lahontan Water Quality Control Board (LWQCB) may be required to determine the need for a Section 401 water quality permit. This project may be able to use the LWQCB's General Permit R6T-2003-0004 for minor streambed/lakebed alteration projects because the federal Clean Water Act is not applicable.

Significance: This project could be considered a cumulatively significant adverse impact to biological resources, specifically to streambeds and sensitive plants, as this area is further developed. This impact could be lessened if sufficient protection measures for streambeds and sensitive plants are implemented on this and surrounding sites to maintain waterflow in the Amargosa Creek drainage system.

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