

Appendix C

Biological Evaluation



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

RIDGECREST WASTEWATER TREATMENT PLANT EXPANSION PROJECT BIOLOGICAL EVALUATION CITY OF RIDGECREST, KERN AND SAN BERNARDINO COUNTIES, CALIFORNIA

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EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) conducted an investigation of the biological resources of the Ridgecrest Wastewater Treatment Plant Expansion Project Alternatives site within the City of Ridgecrest, Kern County, and San Bernardino County, California and evaluated likely impacts to such resources resulting from development of the two project alternatives. On June 8 & 9, 2015, LOA biologist Jeff Gurule surveyed the site for biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law. At the time of the field survey, the project site consisted of desert scrub, ruderal land, wastewater ponds, agricultural fields, and ephemeral drainage situated at the edge of developed areas associated with the City of Ridgecrest and the China Lake Naval Air Weapons Station. The Indian Wells Valley, in which the project is located, is dominated by desert scrub habitat at the western edge of the Mojave Desert.

Less than significant project impacts are as follows.

Alternative 1 and Alternative 2: Both proposed project alternatives will not impact special status plants known to occur in the region due to the absence of suitable habitat and/or the project site location outside the species' range. Project impacts will also be less than significant for wildlife movement corridors, Waters of the U.S., sensitive or designated critical habitat, special status species absent from or unlikely to occur on the project site, special status species that may only occasionally forage on the project site, and special status species that may breed and forage on the site due to potential loss of habitat. Furthermore, the project will comply with the City of Ridgecrest and San Bernardino County general plan policies pertaining to biological resources.

Alternative 1: This alternative would have no impact on water quality of downstream waters.

Potentially significant project impacts and mitigations are as follows.

Alternative 1 and Alternative 2: Both alternatives may result in impacts to nesting birds protected under the federal Migratory Bird Treaty Act. Birds nesting on the project site have the potential to be killed or disturbed by construction activities. Preconstruction surveys and avoidance, should active nests be found, will reduce impacts to nesting migratory birds to a less than significant level. Although no evidence of desert tortoise, Mohave ground squirrel, burrowing owl, or American badger habitation of the project site was noted at the time of the field survey, these species could conceivably use the site from time to time. Preconstruction surveys and appropriate avoidance and minimization measures stipulated in this document will reduce impacts to these species to a less than significant level. Should the desert tortoise be found on the site during protocol surveys the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFW) must be consulted. If impacts to the species can't be avoided, conditions of a Biological Opinion from the USFWS and an Incidental Take Permit from the CDFW must be implemented. Should the Mohave ground squirrel be found on the site during protocol surveys, the CDFW must be consulted. If impacts to the species can't be avoided, conditions of an Incidental Take Permit from the CDFW must be implemented.

Alternative 2: This alternative has the potential to degrade downstream waters during proposed trenching activities through a small isolated ephemeral drainage that would be considered a water of the state. Standard Best Management Practices must be implemented to reduce impacts to less than significant. Furthermore, it is recommended that the Lahontan Regional Water Quality Control Board and the CDFW be notified prior to project disturbance to this drainage.

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1.0 INTRODUCTION

The technical report that follows describes the biotic resources of two alternatives for the Ridgecrest Wastewater Treatment Plant Expansion Project (hereafter referred to as the “project site(s)” “project alternatives” or “site(s)”), and evaluates possible impacts to those resources that could result from project implementation. Specifically, this report describes the biotic habitats of the project alternative sites, evaluates the suitability of each habitat for special status plant and animal species, identifies potentially significant impacts to sensitive biotic resources resulting from the proposed project and, where appropriate, proposes measures that if implemented would mitigate those impacts to a less than significant level.

1.1 PROJECT LOCATION

The project alternatives are located within the Ridgecrest City Limits, Kern County, with a portion of the project alternatives east of San Bernardino Blvd occurring outside the City Limits and within San Bernardino County. The northern section of the project alternatives area, while within the Ridgecrest City Limits, is located on the China Lake Naval Air Weapons Stations (NAWS) (Figure 1). The entire project alternatives area lies within the *Ridgecrest South* U.S. Geological Survey (USGS) 7.5 minute quadrangle; Sections 1, 2, & 35; and *Ridgecrest North* USGS 7.5 minute quadrangle Sections 14, 23, 26, & 35; Township 26 & 27 South, Range 40 East, Mt. Diablo Base and Meridian (Figure 2).

1.2 PROJECT DESCRIPTION

The project considers two alternatives described in detail, below.

Alternative 1: Alternative 1 would construct and operate a wastewater treatment plant (WWTP) on approximately 7.4 acres adjacent to the existing WWTP at the NAWS Site as illustrated in Figure 3. As is the case with the existing WWTP, the City of Ridgecrest (City) would need to acquire an easement from the U.S. Navy in order to utilize the additional 7.4 acres. Under this Alternative, portions of the existing WWTP would be demolished, with new facilities constructed on the existing NAWS site as well as on the proposed 7.4 acre lease area abutting to the west. If Alternative 1 is selected as the Preferred Alternative, construction and demolition

would need to be coordinated such that the existing WWTP could continue to function and power supply to the existing WWTP is not interrupted. Wastewater from all areas of the City would continue to gravity-flow north to the WWTP, and the existing 20-inch force main would remain in use to pipe effluent south to the City site disposal ponds for eventual land application. To accommodate the increase in effluent to the City site this alternative would require the construction of 90 acres of new treatment ponds at the City site.

Alternative 2: Alternative 2 would construct a wastewater treatment plant on approximately 10 acres adjacent to the existing disposal ponds at the City site (see Figure 4). Currently, all raw wastewater from the City flows by gravity to the WWTP at the NAWS. Under Alternative 2, a new WWTP plant would be constructed on 10 acres at the City site, and the City would be divided into two distinct service areas based on the location and direction of flow of existing trunk sewer lines. The southern service area would be able to flow via gravity to the new City site WWTP. Southern-area flows would continue to meet at the intersection of California Avenue and South Lumill Street. However, at that point a new 24-inch-diameter gravity main would divert the influent directly to the new WWTP instead of allowing it to head north to the NAWS site via the existing 24-/27-inch gravity main. An influent lift station at the western edge of the new WWTP would pump the southern-area influent to the headworks. Flows from the northern service area would continue to be collected by the 24-/27-inch gravity main to flow northward to the NAWS site. At that point, a new lift station would be constructed to pump the arriving wastewater southward to the City site. To connect the new lift station to the City site, Alternative 2 would require the construction of approximately 21,000 feet of raw wastewater force main with a 16-inch diameter. The new force main is expected to run parallel to the existing force main within a new easement acquired from the Department of the Navy. The City is currently examining the optimal location of the new force main relative to the existing one. To account for a variety of potential alignments, this EIR examines a permanent 10-foot public utilities easement to either side of the existing easement along with a 20-foot temporary construction easement for a total corridor width of 80 feet.

While the existing four-mile-long, 20-inch-diameter effluent force main would remain in place, it would be operated in reverse of its current direction and effluent would be pumped from the City

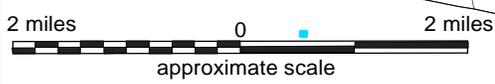
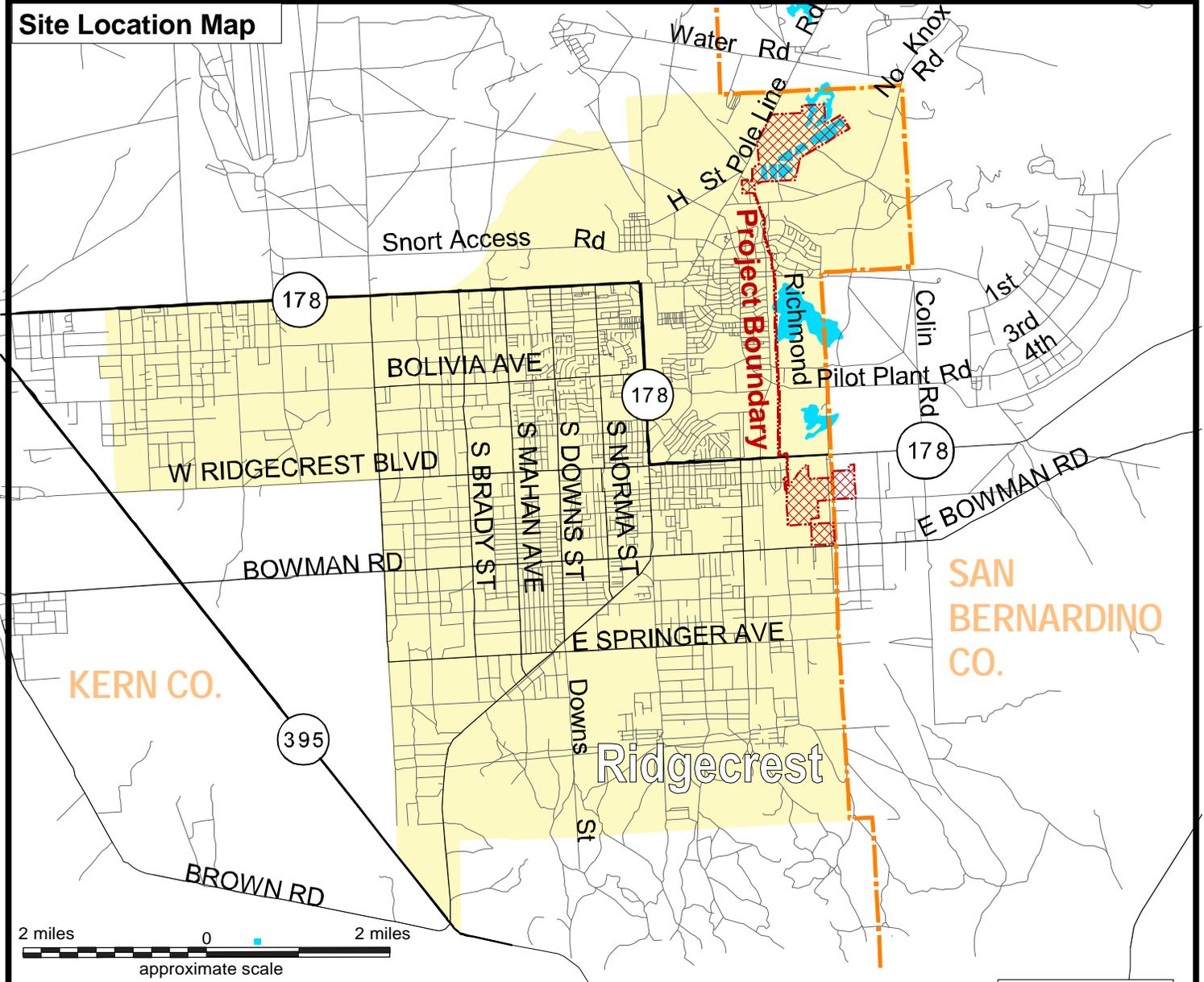
site to the NAWS site wastewater disposal ponds. This would require installation of a new pump station and an additional 90 acres of treatment ponds at the City site.

In summation, Alternatives 1 and 2 occupy largely the same physical sites and will contain the same type, size, and intensity of treatment facilities. The primary differences between these two Alternatives relate to the physical location of the treatment plant, the presence or absence of a new raw wastewater lift station at the NAWS site, construction of a small segment of 24-inch sewer main to the City site, and a force main from the new lift station to the City site. Under Alternative 1, the wastewater treatment facility would be constructed on approximately 7.4 acres at the NAWS site, adjacent and to the west of the existing wastewater treatment plant. Under Alternative 2, the facility would be constructed on approximately 10 acres at the City site, adjacent and to the southwest of the existing wastewater ponds. As noted above, both of the Project Alternatives require the continued operation and potential upgrades to the existing four-mile underground effluent pipeline, continued operation of the wastewater disposal ponds at the NAWS site and City site, and the construction of an additional 90 acres of ponds at the City site. If the City implements the disinfected tertiary recycled water component of the project, a recycled purple water pipe distribution system will be constructed from the selected WWTP site to the China Lake NAWS Site, the NAWS golf course, schools, parks, and landscaped areas. The pipeline is expected to be constructed within the existing rights-of-way of Richmond Road, the Drummond Road alignment south of Burroughs High School, French Avenue past Leroy Johnson Park, Balsam Street to Ridgecrest Blvd, then on South Warner Street to Freedom Park. All pipelines for the distribution of the recycled water will be analyzed under a subsequent CEQA document. This CEQA document analyzes only the impacts of the tertiary treatment.

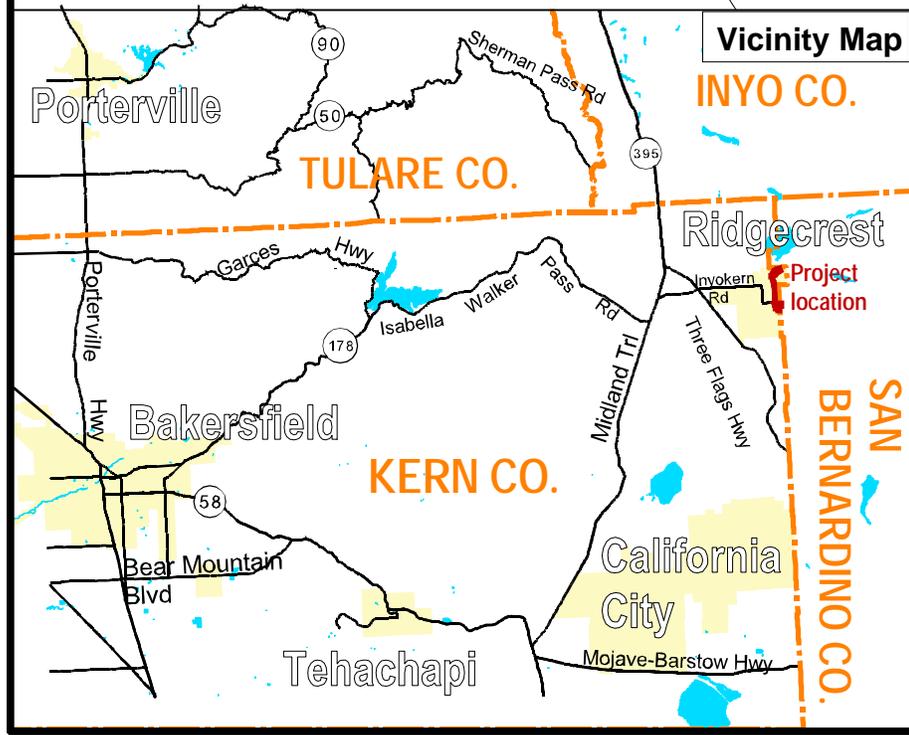
Figures 3 and 4 identify the conceptual wastewater treatment facility ponds layout that is common to both Project Alternatives. It should be noted that these plans are conceptual and not all components of the project may be consistent in the final plan. However, the overall footprint and implications of the proposed project will be equivalent.

Following construction of either Alternative 1 or Alternative 2, all existing wastewater treatment ponds would continue to be maintained and operated as before project construction.

Site Location Map



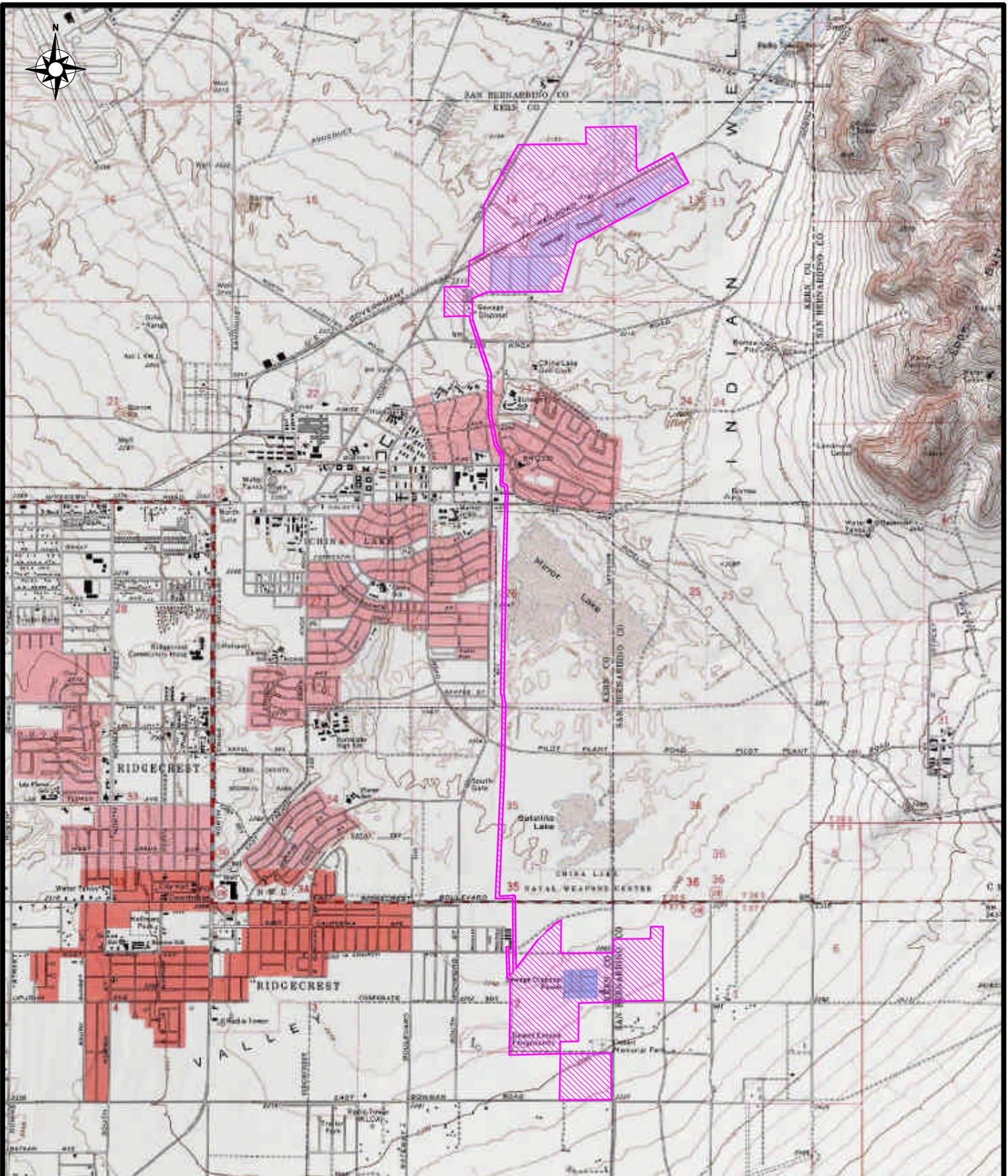
Vicinity Map



Regional Map

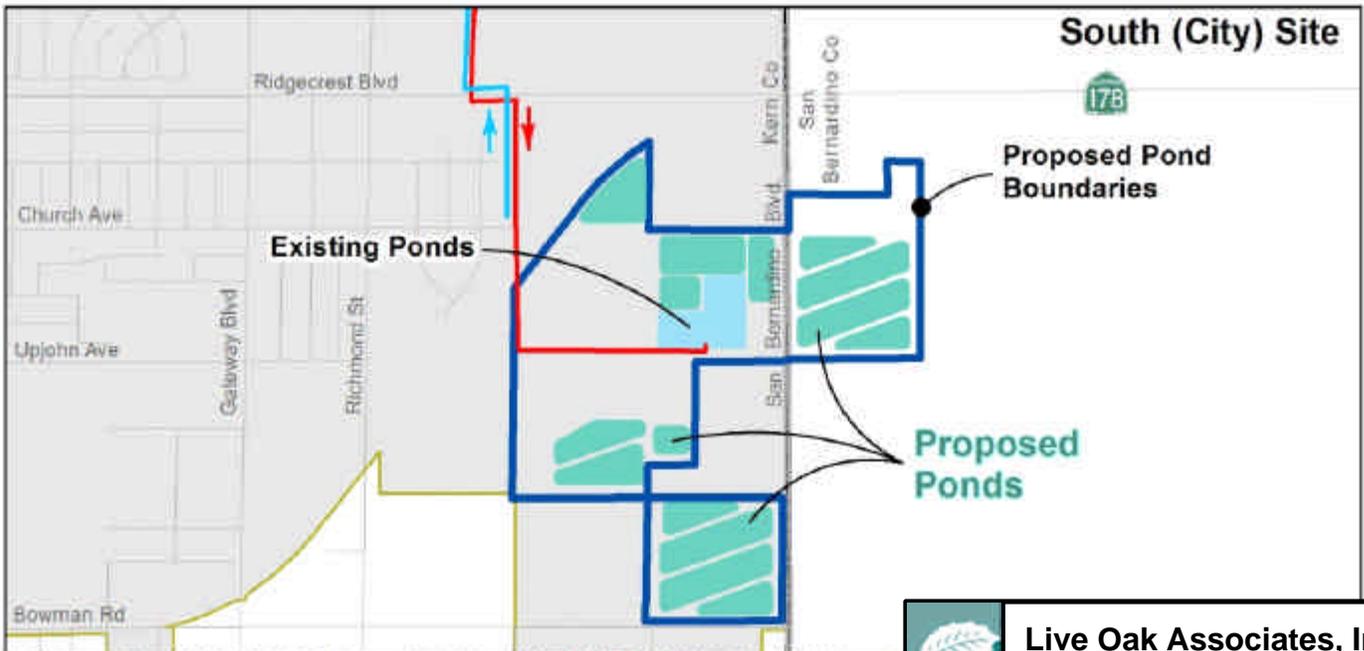
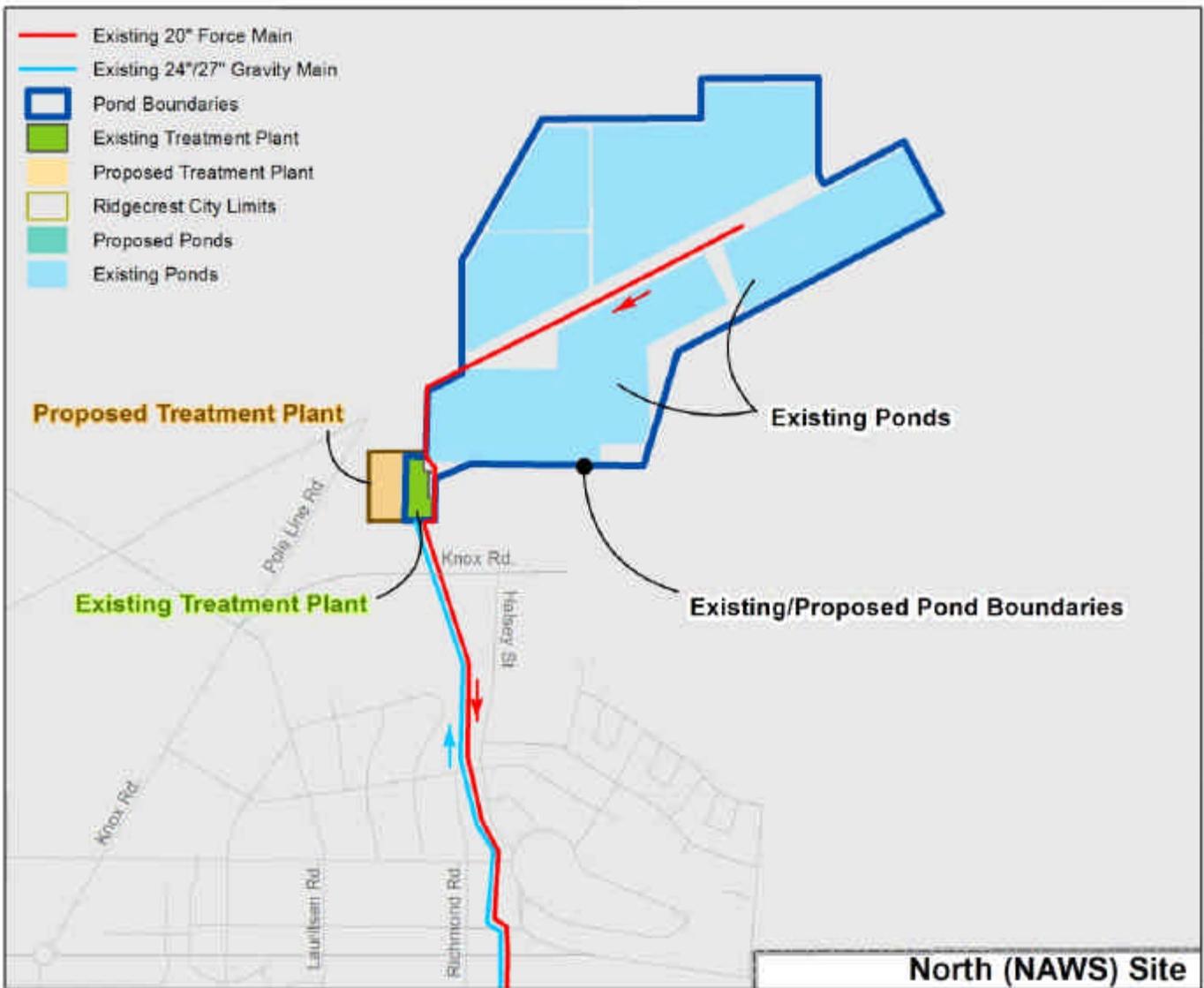


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|  Live Oak Associates, Inc. | | |
| Ridgecrest WWTP Project Site / Vicinity Map | | |
| Date | Project # | Figure # |
| 3/08/2016 | 1886-01 | 1 |



From USGS
 Ridgecrest North 7.5' Quadrangle 1973
 Ridgecrest South 7.5' Quadrangle 1973
 Lone Butte 7.5' Quadrangle 1973
 Spangler Hills West 7.5' Quadrangle 1973

| | | |
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| Live Oak Associates, Inc. | | |
| Ridgecrest WWTP Project | | |
| U.S.G.S. Quadrangle | | |
| Date | Project # | Figure # |
| 3/08/2016 | 1886-01 | 2 |



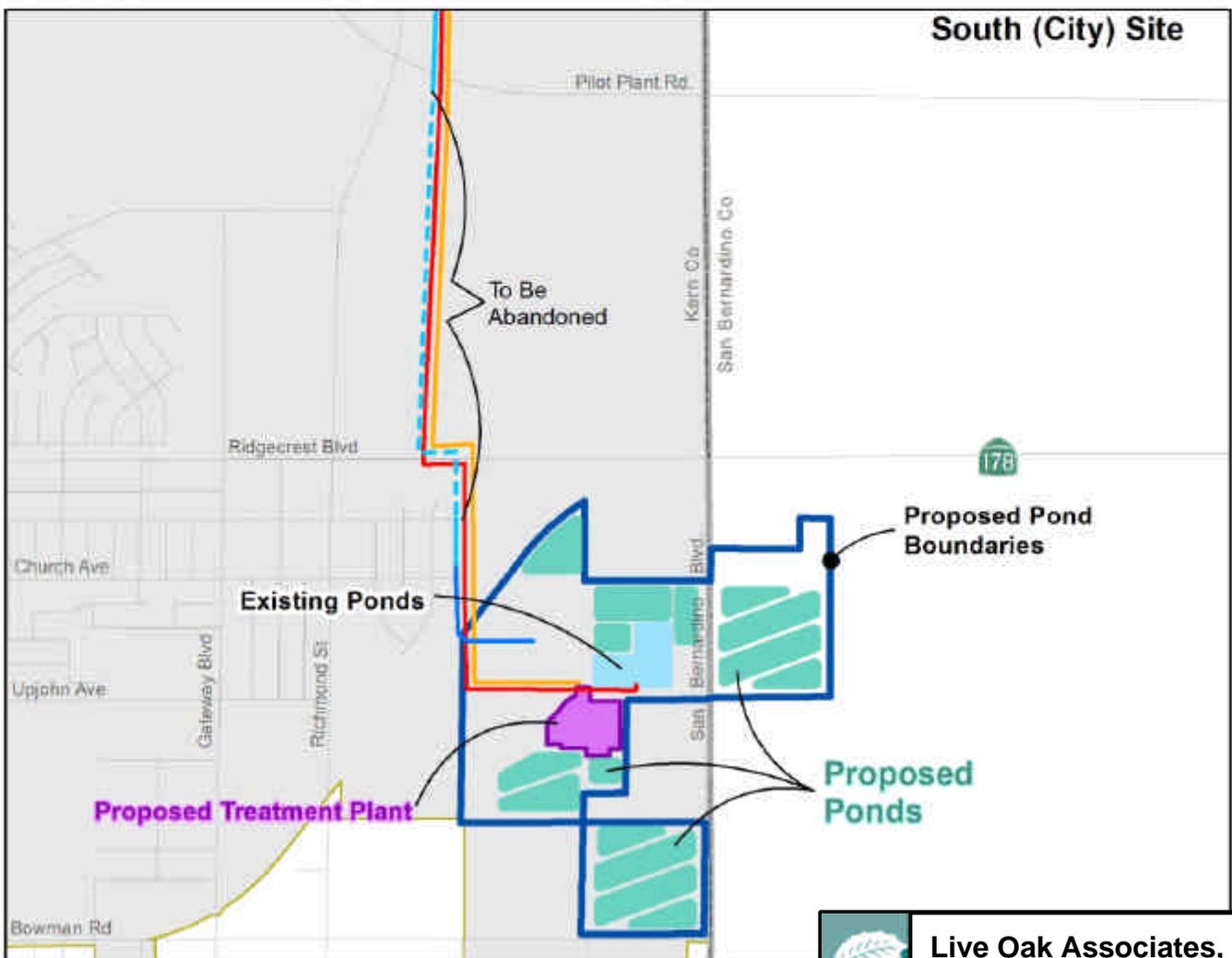
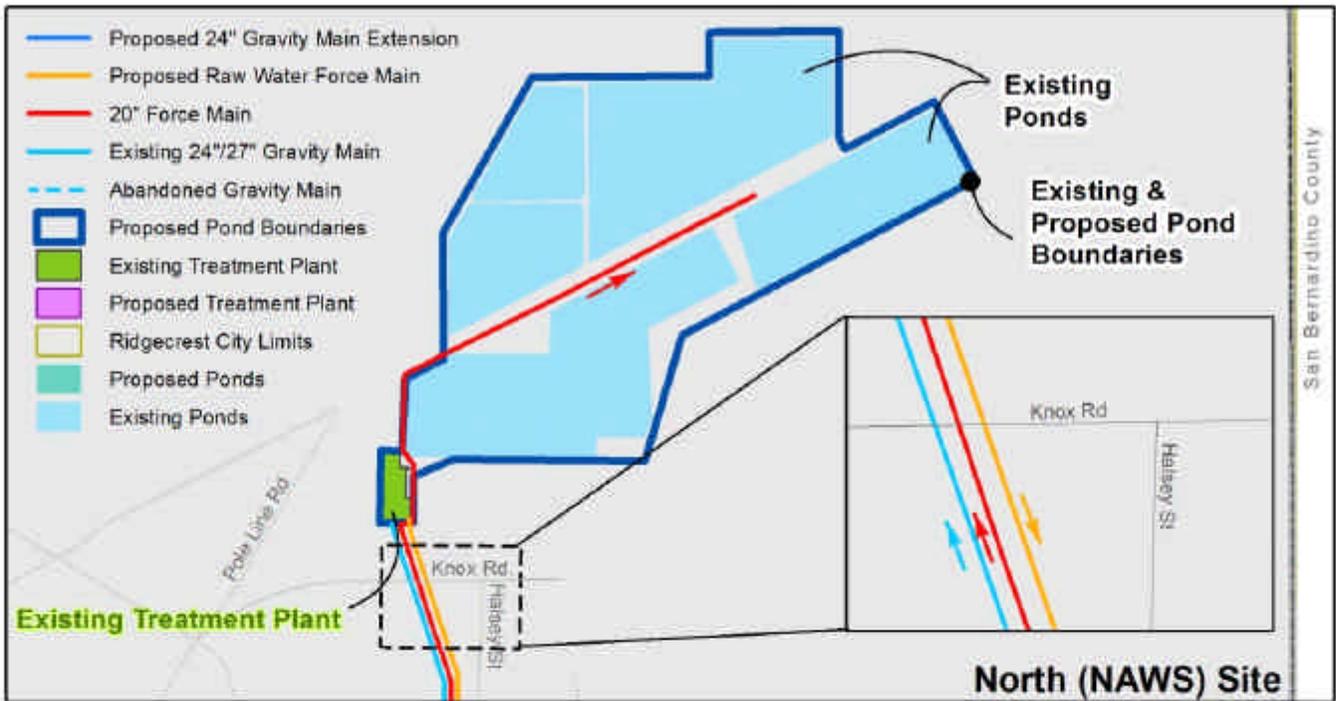
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Live Oak Associates, Inc.

Ridgecrest WWTP Project
Alternative 1 Site Plan

| | | |
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| Date | Project # | Figure # |
| 3/08/2016 | 1886-01 | 3 |

Source:
City of Ridgecrest T5 CEQA Final Draft Alternatives



Live Oak Associates, Inc.
Ridgecrest WWTP Project
 Alternative 2 Site Plan

| | | |
|-----------|-----------|----------|
| Date | Project # | Figure # |
| 3/08/2016 | 1886-01 | 4 |

Source:
 City of Ridgecrest T5 CEQA Final Draft Alternatives

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1.3 REPORT OBJECTIVES

The development of lands, such as the WWTP expansion alternatives proposed by the City of Ridgecrest, may damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, site development may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of the City of Ridgecrest and San Bernardino County. This report addresses issues related to: 1) Sensitive biotic resources occurring on the project site; 2) The federal, state, and local laws regulating such resources; and 3) Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies. As such, the objectives of this report are to:

- Summarize all site-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development.
- Identify and discuss project impacts to biological resources likely to occur on the site within the context of CEQA or any state or federal laws.
- Identify avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

1.4 STUDY METHODOLOGY

The analysis of impacts, as discussed in Section 3.0 of this report, is based on the known and potential biotic resources of the project site discussed in Section 2.0. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2015), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2015), and (3) manuals, reports, and references related to plants and animals of the Mohave Desert region. A reconnaissance-level field survey of the project site was conducted on June 8 & 9, 2015 by Live Oak Associates, Inc. (LOA) biologist Jeff Gurule. The survey

consisted of walking the project such that all represented habitats could be thoroughly inspected. During this time principal land uses of the site were identified and the constituent plants and animals were noted on a field datasheet. The field survey conducted for this study was sufficient to assess the significance of possible biological impacts associated with the development plans for the project site.

2.0 EXISTING CONDITIONS

The project site is located within the Indian Wells Valley region of the western Mohave Desert. The area is loosely bound by four mountain ranges: the Sierra Nevada to the west, the Coso Range to the north, the Argus Range on the east, and the El Paso Mountains to the south. At the time of the survey the project site contained desert scrub, ruderal land, wastewater ponds, agricultural fields, and ephemeral drainage (Figure 5).

The topography of the project site is relatively flat with elevations ranging from approximately 2,213 – 2,327 feet National Geodetic Vertical Datum (NGVD). A small ephemeral drainage crosses the project site and drains into the Mirror Lake basin. The Mirror Lake basin is a closed basin with no hydrologic outlet. Mirror Lake is rarely inundated.

In general, soils of the project site are mostly sandy. Surface soils are deficient in nitrogen and relatively high in salt accumulation. Some soils of the site, primarily in agricultural and ruderal areas have been disturbed or altered through farming, grading, the construction of WWTP infrastructure, and other development. As such, native soil characteristics within these areas have been altered or destroyed.

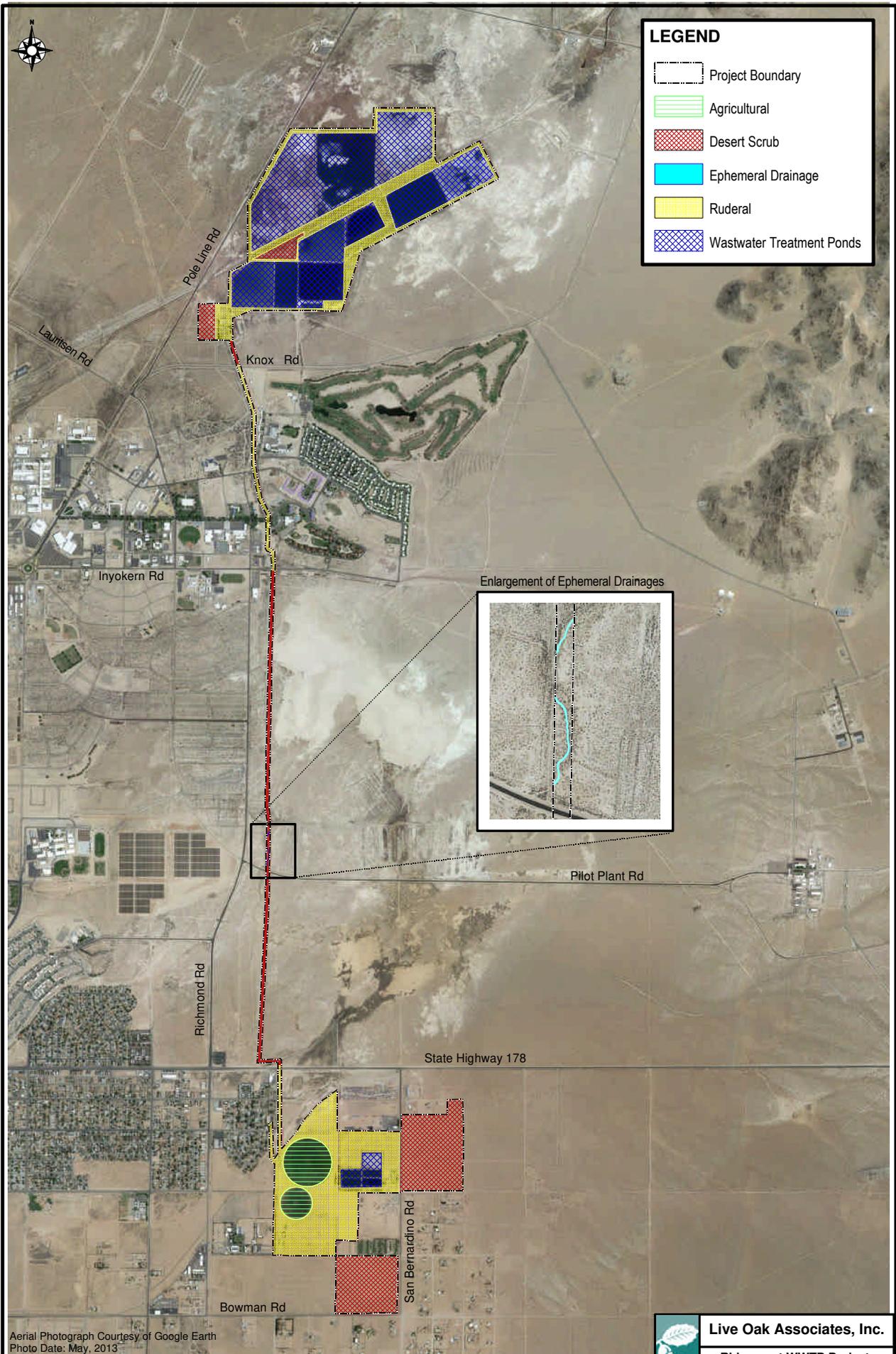
The project site is located in a region of California having a desert climate. Summers are dry and hot with daytime temperatures commonly exceeding 100° Fahrenheit. Winters are mild to cold with occasional freezing nighttime temperatures. Annual precipitation in the general vicinity of the project site is low with a mean annual rainfall of approximately 3.7 inches, most of which falls between the months of December and March. Virtually all precipitation falls in the form of rain with stormwater infiltrating onsite soils.

The surrounding lands consist of desert scrub, Mirror Lake dry lake bed, and developed lands associated with the City of Ridgecrest and the NAWS.



LEGEND

- Project Boundary
- Agricultural
- Desert Scrub
- Ephemeral Drainage
- Ruderal
- Wastewater Treatment Ponds



Aerial Photograph Courtesy of Google Earth
Photo Date: May, 2013



Live Oak Associates, Inc.

Ridgecrest WWTP Project
U.S.G.S. Quadrangle

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2.1 BIOTIC HABITATS/LAND USES

Five habitat/land use types were observed on the project site during the September 2014 biological field survey; desert scrub, ruderal land, wastewater ponds, agricultural fields, and ephemeral drainage. A list of the vascular plant species observed within the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively. Photos of the project site are presented in Appendix C.

2.1.1 Desert Scrub

Desert scrub occurs throughout large areas of the western Mojave Desert. The dominant shrub species within desert scrub habitats of the sites is allscale (*Atriplex polycarpa*), which are generally widely spaced. Other shrub species observed in this habitat were creosote bush (*Larrea tridentata*), desert senna (*Senna armata*), burrow bush (*Ambrosia dumosa*), and Mojave saltbush (*Atriplex spinifera*). One cactus species, Wiggins' cholla (*Cylindropuntia echinocarpa*), was occasionally observed in this habitat. Annual grasses and forbs formed a relatively sparse cover between and beneath the shrubs, which included schismus (*Schismus barbatus*), red brome (*Bromus madritensis* ssp. *rubens*), narrow leaved cryptantha (*Cryptantha angustifolia*), fireweed (*Ansinckia* sp.), and desert pepperweed (*Lepidium fremontii*), among others. Dried remains of other annual plant species were also observed on the site, but were unidentifiable due to the timing of the field survey.

The desert scrub observed on the site provides habitat for many native terrestrial vertebrate species. The degree to which this habitat is used by these species has likely been adversely affected by human activities on and adjacent to these areas. Relatively few animals were observed on the site during the reconnaissance level survey, but evidence of small mammals in the form of burrows was observed throughout the study area. Reptiles likely to occur in this habitat include the side-blotched lizards (*Uta stansburiana*), southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), Great Basin whiptails (*Cnemidophorus tigris tigris*), red racer (*Coluber flagellum piceus*), California kingsnakes (*Lampropeltis californiae*), and Northern Mojave rattlesnakes (*Crotalus scutulatus scutulatus*), among others. Birds common to desert scrub include horned larks (*Eremophila alpestris*), common ravens (*Corvus corax*), greater roadrunners (*Geococcyx californianus*), Brewer's sparrows (*Spizella breweri*), black-throated

sparrows (*Amphispiza bilineata*), and sage sparrows (*Amphispiza belli*), among others. Mammal species potentially occurring within this habitat could include coyotes (*Canis latrans*), kit fox (*Vulpes macrotis*), black-tailed jackrabbits (*Lepus californicus*), Merriam's kangaroo rats (*Dipodomys merriami*), white-tailed antelope squirrels (*Ammospermophilus leucurus*), Mojave ground squirrel (*Spermophilus tereticaudus*) and southern grasshopper mice (*Onychomys torridus*), to name a few.

2.1.2 Ruderal

Ruderal land is characterized by intensive human disturbance or use that has significantly altered soils, topography, and/or the biotic community of a particular area. Within the project site ruderal lands consisted of heavily disturbed and developed lands associated with the WWTPs and the City owned lands used for recreation. Ruderal areas contained a variety of mostly non-native vegetation, which included ornamental trees and shrubs such as Afghan pine (*Pinus eldarica*), red gum (*Eucalyptus camaldulensis*), white mulberry (*Morus alba*), and oleander (*Nerium oleander*); non-native weedy vegetation such as Bermuda grass (*Cynodon dactylon*), cheeseweed (*Malva sp.*), redstem filaree (*erodium cicutarium*), schismus, and mustard (*Sisymbrium sp.*); and vestigial native desert vegetation such as allscale, creosote bush, narrow leaved cryptantha, and fireweed.

A number of wildlife species adapted to human disturbance are expected to occur in ruderal areas of the site. For example, amphibians such as Pacific chorus frogs (*Pseudacris regilla*) and western toads (*Anaxyrus boreas*) might disperse through these areas during the winter and spring, and reptiles such as the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis melanoleucus*), and common kingsnake (*Lampropeltis getulus*) could forage in these areas. The two aforementioned trees could provide potential nesting habitat for a few avian species such as the house finch (*Haemorrhous mexicanus*), northern mockingbird (*Mimus polyglottos*), and Eurasian collared dove (*Streptopelia decaocto*); all were observed during the field survey.

Common resident species likely to forage within this habitat include mourning doves (*Zenaida macroura*) and American crows (*Corvus brachyrhynchos*), as well as mixed flocks of Brewer's blackbirds (*Euphagus cyanocephalus*), brown-headed cowbirds (*Molothrus ater*), and European

starlings (*Sturnus vulgaris*). The western kingbird (*Tyrannus verticalis*) is a common summer migrant to open lands of the region. Winter migrants common to the area include white-crowned sparrows (*Zonotrichia leucorhrys*), savannah sparrows (*Passerella sandwichensis*), and American pipits (*Anthus rubescens*).

A few mammal species may also occur within ruderal lands of the site. California ground squirrel (*Otospermophilus beecheyi*) burrows and Botta's pocket gopher (*Thomomys bottae*) burrow mounds were observed in these areas. Other small mammals expected in these areas include the deer mouse (*Peromyscus maniculatus*), California vole (*Microtus californicus*), black-tailed hare (*Lepus californicus*), and Audubon cottontail (*Sylvilagus audubonii*).

Raptors such as red-tailed hawks (*Buteo jamaicensis*), Swainson's hawks (*Buteo swainsoni*), white-tailed kites (*Elanus leucurus*), and American kestrels (*Falco sparverius*) may also forage over the site. Mammalian predators that may occasionally occur in this habitat include coyotes and kit fox.

2.1.3 Agricultural Field

The project site contains two circular alfalfa (*Medicago sativa*) fields that are irrigated with treated wastewater. Due to regular agricultural practices within these fields they provide little habitat for native wildlife. Nonetheless, some native wildlife species undoubtedly utilize the field from time to time. Wildlife species potentially utilizing the agricultural field would be nearly the same as those occurring in the adjacent ruderal habitat, but less frequently and in lower numbers due to regular irrigation and cultivation activity.

2.1.4 Wastewater Ponds

A number of waste water ponds are located at the City site and the NAWs site. The engineered ponds are earthen and appear to experience minimal vegetation management. Many of the ponds were inundated and supported vegetation along the waterline. Plant species observed included broadleaved cattail (*Typha latifolia*), mule fat (*Baccharis salicifolia*), broad leaved pepper grass (*Lepidium latifolium*), sturdy bullrush (*Bolboschoenus robustus*), tamarisk (*Tamarix sp.*), rabbit's-foot grass (*Polypogon monspeliensis*), and curly dock (*Rumex crispus*). Dry ponds contained much of the same vegetation and biological function as the surrounding ruderal lands.

The ponds offer suitable habitat primarily for amphibians and water fowl. Bullfrogs may inhabit the ponds as well as other amphibian species such as Pacific treefrogs. Reptile use of this area, however, is expected to be quite low due to the aquatic environment and compacted banks and roads surrounding the ponds.

The ponds were used by many species of waterfowl and shorebirds at the time of the field survey. The large ponds at the NAWS site supported much more avian diversity than the small ponds at the City site. Species observed included mallards (*Anas platyrhynchos*), ruddy ducks (*Oxyura jamaicensis*), Virginia rail (*Rallus limicola*), redhead (*Aythya americana*), American avocet (*Recurvirostra americana*), and American coots (*Fulica americana*), among others. Other birds observed in the pond areas include the red-winged blackbird (*Agelaius phoeniceus*), California quail (*Callipepla californica*) and lesser nighthawk (*Chordeiles acutipennis*).

Mammal species may occasionally frequent the ponds for drinking water or feeding. Mammal species that may occur around the margins of the ponds include raccoons (*Procyon lotor*) and coyotes (observed). Various bat species likely forage over the ponds during crepuscular hours.

2.1.5 Ephemeral Drainage

A small ephemeral drainage occurs in the Alternative 1 project area. This drainage is expected to carry ephemeral flows after only very heavy rain events. Vegetation was sparse in this habitat and consisted primarily of widely scattered upland herbaceous vegetation such as schismus, red brome, and narrow leaved cryptantha.

The desert wash on the site provides essentially the same habitat values as the surrounding desert scrub habitat and the same animal species expected in the desert scrub would be expected to utilize the desert wash.

2.2 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have

provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2015). Collectively, these plants and animals are referred to as “special status species.”

Recorded observations of special status species within a 3.1 mile radius of the project alternatives are illustrated in Figure 6. Special status species, and their potential to occur on the project site, are listed in Table 1. Sources of information for this table included *California’s Wildlife, Volumes I, II, and III* (Zeiner et. al 1988-1990), *California Natural Diversity Data Base* (CDFW 2016), *eBird Species Occurrence Range Map* (eBird 2016), and *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2016). This information was used to evaluate the potential for special status plant and animal species to occur onsite.

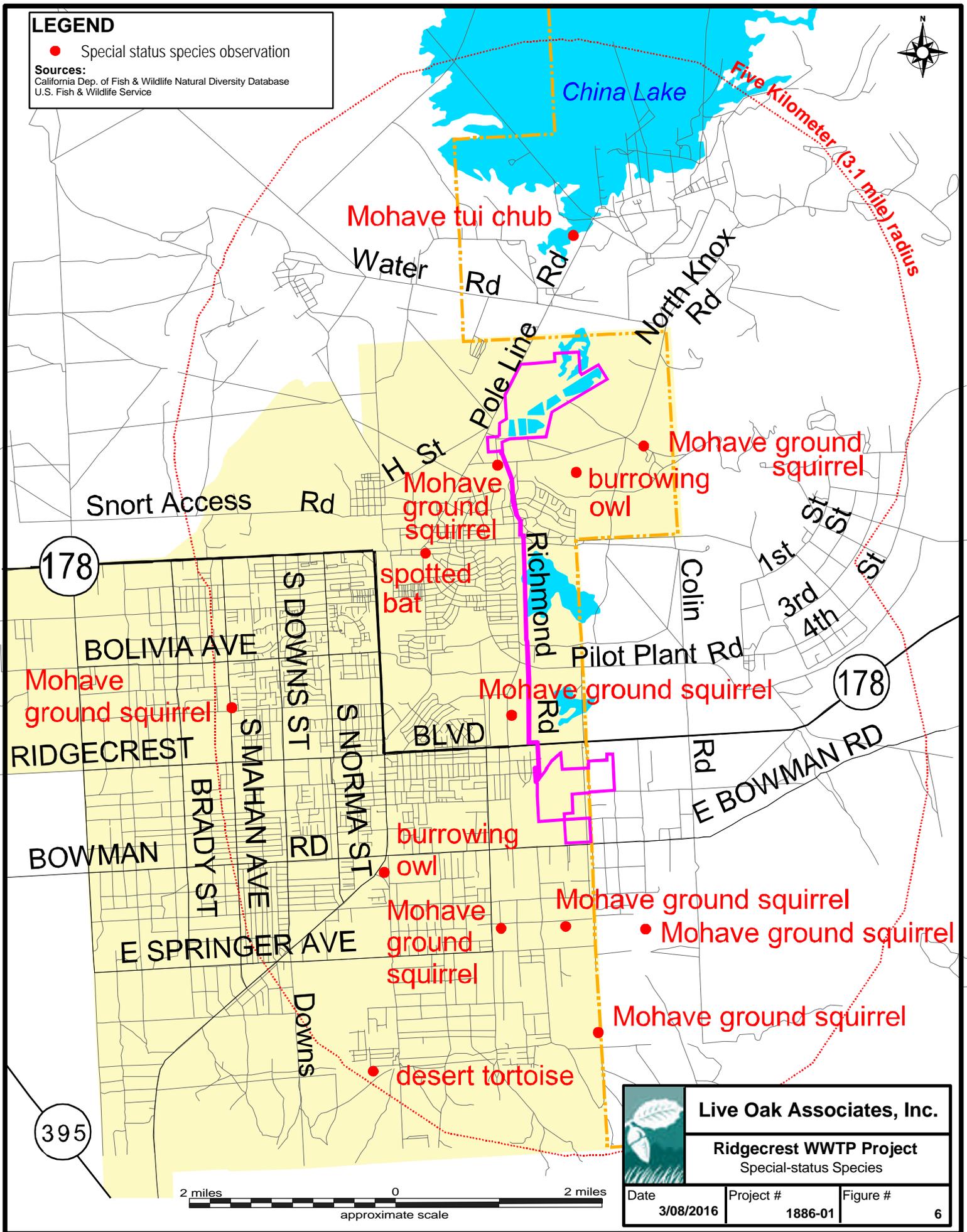
A search of published accounts for all of the relevant special status plant and animal species was conducted for 10 USGS 7.5-minute quadrangles in which the project alternatives occur and are within the vicinity of the project alternatives. The CNDDDB Rarefind 5 (CDFW 2016) was queried for the following 10 quadrangles; Burro Canyon, Inyokern, Inyokern SE, Lone Butte, Pearsonville, Ridgecrest North, Ridgecrest South, Spangler Hills West, White Hills, and Freeman Junction. In addition, the USFWS on-line database was queried for occurrences of federally listed species and critical habitat within the project vicinity (<http://ecos.fws.gov/ipac/>).

LEGEND

● Special status species observation

Sources:

California Dep. of Fish & Wildlife Natural Diversity Database
U.S. Fish & Wildlife Service



Live Oak Associates, Inc.

Ridgecrest WWTP Project
Special-status Species

| | | |
|-----------|-----------|----------|
| Date | Project # | Figure # |
| 3/08/2016 | 1886-01 | 6 |

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2016 and CNPS 2016)

Special status plants listed as rare, threatened, or endangered by CNPS

| Species | Status | Habitat | *Occurrence on Alternative 1 and Alternative 2 Project Sites |
|--|-----------|---|--|
| Clokey’s Cryptantha (<i>Cryptantha clokeyi</i>) | CNPS 1B.2 | Mojavean desert scrub. Found in sandy or gravelly soils in mountainous and hilly areas. Blooms in April. | Unlikely. Mountainous or hilly terrain required by this species is absent from the project sites. |
| Pale Yellow Layia (<i>Layia heterotricha</i>) | CNPS 1B.1 | Occurs in alkaline or clay soils of pinyon juniper woodland, foothill woodland, and grassland between 980 – 5,250 ft. Blooms March – June. | Absent. Habitats and soils required by this species are absent from the project sites. |
| Charlottes phacelia (<i>Phacelia nashiana</i>) | CNPS 1B.2 | Occurs in granitic soils within Joshua tree woodland, Mojavean desert scrub, pinyon juniper woodland. Prefers sandy or rocky areas in mountainous and hilly areas between 1,970-7,200 feet in elevation. Blooms March – June. | Absent. Mountainous or hilly terrain required by this species is absent from the project sites. |

ANIMALS (adapted from CDFW 2016 and USFWS 2016)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

| | | | |
|--|-------------|--|--|
| Mohave tui chub (<i>Siphateles bicolor mohavensis</i>) | FE, CE | Endemic to the Mojave river basin, adapted to alkaline, mineralized waters. Requires deep pools, ponds, or slough-like areas with vegetation for spawning. | Absent. Suitable habitat is absent. A large population occurs approximately 2.0 miles northeast of the project site in two large seeps and associated canals. |
| Desert Tortoise (<i>Gopherus agassizii</i>) | FT, CT | Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred. | Possible. This species may occur in desert scrub areas of the project sites. |
| Inyo California Towhee (<i>Melospiza crissalis eremophilus</i>) | FT, CE | Inhabits the west and east slope of the southern Argus Range from 2,680 to 6,200 ft. Breeds in small patches of dense thickets of willows and desert olive along stream sides, springs and seeps. | Absent. The project sites are outside the known range of this species. |
| California condor (<i>Gymnogyps californianus</i>) | FE, CE, CFP | Vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Nests in deep canyons that contain clefts in rocky walls. | Absent. Suitable habitat is absent from the project sites. Furthermore the site is outside the current range of the species. |
| Mohave ground squirrel (<i>Xerospermophilus mohavensis</i>) | CT | Open desert scrub, alkali scrub & Joshua tree woodland. Restricted to Mojave desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover and nesting. | Possible. Desert scrub areas of the project sites provide potential habitat for this species. Historic observations of this species are documented adjacent to the project sites. |

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont’d.

State Species of Special Concern

| Species | Status | Habitat | *Occurrence on Alternative 1 Project Site |
|--|--------|---|--|
| Townsend’s Big Eared Bat (<i>Corynorhinus townsendii</i>) | CCT | Found throughout California. Roosts most frequently in caves and cave-like structures, but has also been reported to utilize bridges, buildings, rock crevices, and hollow trees. | Possible. This species could conceivably forage over the sites. Suitable roosting habitat is absent within proposed development areas. |
| Burrowing Owl (<i>Athene cucularia</i>) | CSC | Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows. | Possible. Burrows of suitable size for burrowing owl occupation were not observed on the project site during LOA’s reconnaissance survey. However, this species has the potential to occur in burrows not observed on the sites, or to move onto the sites at some point in the future. |
| Long-eared Owl (<i>Asio otus</i>) | CSC | Nests and roosts in riparian woodlands and forests. Forages in adjacent open lands. | Possible. The project sites are located outside this species breeding range. Potential roosting habitat occurs within stands of ornamental trees within the project sites and adjacent open lands provide potential foraging habitat. |
| Le Conte’s thrasher (<i>Toxostoma lecontei</i>) | CSC | Desert resident primarily found in open desert washes, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Nests in dense spiny shrubs or branched cactus. | Possible. Potential breeding and foraging habitat occurs in desert scrub habitats of the project sites. |
| Spotted Bat (<i>Euderma maculatum</i>) | CSC | Frequents semi-arid to arid habitats from low desert habitats to high elevation conifer forests. Prominent rock features used for roosting. | Possible. This species may forage over the sites; roosting habitat is absent. |
| Pallid Bat (<i>Antrozous pallidus</i>) | CSC | Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings. | Possible. This species may forage over the sites; suitable roosting habitat is absent within proposed development areas. |
| American Badger (<i>Taxidea taxus</i>) | CSC | Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils. | Absent. Although no badger burrows or digs were observed during the LOA field survey, suitable habitat occurs within desert scrub habitats of the sites. |
| Desert Bighorn Sheep (<i>Ovis canadensis nelsoni</i>) | FP | Found in the dry, steep, rocky desert mountains of southeastern California. Prefers open terrain. | Absent. Suitable habitat in the form of mountainous terrain is absent from the project sites. |

***Explanation of Occurrence Designations and Status Codes**

Present: Species observed on the sites at time of field surveys or during recent past.

Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the sites, but it could occur there from time to time.

Unlikely: Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed on the sites, and precluded from occurring there because habitat requirements not met.

STATUS CODES

| | | | |
|------|---|-----|---|
| FE | Federally Endangered | CE | California Endangered |
| FT | Federally Threatened | CT | California Threatened |
| FPE | Federally Endangered (Proposed) | CR | California Rare |
| FC | Federal Candidate | CP | California Fully Protected |
| | | CSC | California Species of Special Concern |
| CNPS | California Native Plant Society Listing | | |
| 1A | Plants Presumed Extinct in California | 3 | Plants about which we need more information – a review list |
| 1B | Plants Rare, Threatened, or Endangered in California and elsewhere | 4 | Plants of limited distribution – a watch list |
| 2 | Plants Rare, Threatened, or Endangered in California, but more common elsewhere | | |

2.3 ENDANGERED, THREATENED, OR SPECIAL STATUS PLANT AND ANIMAL SPECIES MERITING FURTHER DISCUSSION

2.3.1 Desert Tortoise (*Gopherus agassizii*). Federal Listing Status: Threatened; State Listing Status: Threatened.

The most significant threats to the desert tortoise include urbanization, disease, habitat destruction and fragmentation, illegal collection and vandalism by humans, and habitat conversion from invasive plant species. Predation of young tortoises by ravens (often prolific in and near urban areas) is significant in some areas. Free ranging domestic dogs can also prey upon desert tortoise near urban areas. Desert tortoise populations in some areas have declined by as much as 90% since the 1980s.

Desert tortoises occur in a wide variety of habitats in arid and semiarid regions. They require friable soil for burrow and nest construction. Highest densities are achieved in creosote bush communities with extensive annual wildflower blooms, such as occur in the western Mojave. However, tortoises can be found in areas of extensive lava formations, alkali flats and most other desert habitats. Tortoises are herbivorous, eating annual forbs and grasses; many species are taken, but forbs are preferred over grasses and green vegetation is preferred over dry. Desert tortoises have been observed eating carrion and feces as well as excavating and eating calcium carbonate mineral deposits. This species normally excavates a burrow under bushes, overhanging soil or rock formations, or digs into the soil in the open. Burrows are most extensive in the northern part of the range where winter temperatures are coldest. On occasion, a tortoise will take cover under a bush or any natural shelter. The burrows are often crucial to survival, especially in hot weather when the direct rays of the sun can kill a tortoise in an hour or less.

Tortoises may be active at any time of year, but most activity takes place between March and June, and to a lesser extent in late summer in areas with summer rains (eastern Mojave). In early spring, tortoises may be active all day but by late spring, activity is reduced to less than an hour in early morning, 1 out of 4 days. Copulation begins shortly after the tortoises become active in late March or early April. Eggs are laid in early summer (late May to July). Clutches average 5 (range 2-9) eggs and take 3-4 months to hatch. Nests are often constructed at the entrance to burrows. Failure of rainfall and consequent scarcity of annual plants may result in reproductive failure (Zeiner et. al 1988-1990).

Potential to occur onsite. The project alternative sites occur at the northern edge of the desert tortoises range. There is one documented desert tortoise occurrence within three miles of both project alternatives (CDFW 2016). Desert scrub habitats on the two project alternative sites do not provide optimal desert tortoise habitat due to the low density of creosote bushes. The presence of ravens and domestic dogs associated with the urban environment of the City of Ridgecrest further diminish the suitability of habitat for desert tortoise on the project site, as these species are known to prey upon tortoises. However, it is possible that a desert tortoise may occur within desert scrub habitat of the project site. No evidence of desert tortoise was observed during LOA's site survey in June, 2015.

2.3.2 Mohave Ground Squirrel (*Xerospermophilus mohavensis*). State Listing Status: Threatened.

The Mohave ground squirrel is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo Counties from 1800-5000 feet in elevation. This species is rare throughout its range. Populations in southwestern San Bernardino County appear to be extirpated. Optimal habitats are open desert scrub, alkali desert scrub, and Joshua tree. Prefers sandy to gravelly soils; avoids rocky areas. Populations are reduced by urban development, off-road vehicle use, and agriculture.

Forages on the ground or in shrubs and Joshua trees where it eats a wide variety of green vegetation, seeds, and fruits. Uses burrows at the base of shrubs for cover. Nests are built in the burrow system, which may be as long as 6 m (20 ft), and as deep as 1 m (3.3 ft). This diurnal ground squirrel is active above ground in the spring and early summer. Emergence dates vary

from March to June, depending on elevation. Squirrels begin aestivation in July or August. Stored body fat is the principal source of energy for aestivation, although food is stored, and captive individuals are known to eat during intermittent periods of wakefulness (Zeiner et. al 1988-1990).

Potential to occur onsite. There are eight documented occurrences of Mohave ground squirrels within three miles of both project alternatives (CDFW 2016). Suitable Mohave ground squirrel habitat occurs within desert scrub habitats of both project alternatives. No evidence of this species was observed during LOA's site survey in June, 2015.

2.4 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, wetlands, and in some cases irrigation canals. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the CDFW, and the Regional Water Quality Control Boards (RWQCB). See Section 3.2.5 of this report for additional information.

At the time of the LOA field survey, a small ephemeral drainage was identified within the development footprint of Project Alternative 1. Water contributing to this drainage originates from nearby desert uplands. The drainage terminates in the Mirror Lake Basin. This basin is isolated with no hydrologic outlet and rarely becomes inundated. The onsite drainage is expected to carry flows only during very heavy rain events. This drainage would not meet the criteria of jurisdiction set forth by the USACE due to its isolation from known or potential waters of the U.S. However, the drainage would be considered a water of the State by the Lahonton RWQCB. The CDFW may also claim jurisdiction over this ephemeral drainage, in which a Stream Alteration Agreement would be issued after their review of a completed notification form.

2.5 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for

the conservation and recovery of a threatened or endangered species. Critical habitat may require special management and protection.

The two project alternatives are not located within designated critical habitat for any federally listed species.

2.6 NATURAL COMMUNITIES OF SPECIAL CONCERN

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, home to special status species, etc. CDFW is responsible for the classification and mapping of all natural communities in California. Natural communities are assigned state and global ranks according to their degree of imperilment. Any natural community with a state rank of 3 or lower (on a 1-5 scale) is considered of special concern.

Natural Community of Special Concern are absent from the two project alternatives.

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

Terrestrial vertebrates occurring on the project alternative sites, whether they are resident species, migrants, or species using the site solely for foraging, move regularly through it. However, regular and predictable movements during migration and dispersal would not occur on the project sites. Typically, the types of movements made by terrestrial vertebrates on the project sites would be home range movements unique to each species and lacking geographic predictability.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

Approval of general plans, area plans, and specific projects is subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are carried out. CEQA is concerned with the significance of a proposed project's impacts. For example, a proposed development project may require the removal of some or all of a site's existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on the site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed.

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest."

Specific project impacts to biological resources may be considered "significant" if they would:

- 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.
- Have a substantial adverse effect 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 U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make “mandatory findings of significance” if the project has the potential to:

“Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.”

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 General Plan Policies of the City of Ridgecrest and County of San Bernardino

The City of Ridgecrest General Plan (2030) and 2007 San Bernardino County General Plan (Amended 2014) provides the City and County direction in project planning and approval with respect to transportation, housing, energy, noise, safety, land use, open space, conservation, etc. These plans are implemented via a number of goals and corresponding policies. Goals and policies relevant to the current project are derived primarily from the Open Space and Conservation Elements of these two planning documents. These goals and policies are presented in Appendix D.

3.2.2 Threatened and Endangered Species

State and federal “endangered species” legislation has provided the CDFW and the USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as “species of special status.” Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the “take” of a listed species. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or

kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.3 Migratory Birds

State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.4 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

3.2.5 Wetlands and Other Jurisdictional Waters

Natural drainage channels and adjacent wetlands may be considered “Waters of the United States” (hereafter referred to as “jurisdictional waters”) subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- All interstate waters including interstate wetlands.

- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified in the bulleted items above.

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water.

The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards.

The filling of isolated wetlands, over which the USACE has disclaimed jurisdiction, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Report of Waste Discharge with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System (NPDES) permits, including the General Construction Activity Storm Water Permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code (2003). Activities that would disturb these waters are regulated by the CDFW via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented which protect the habitat values of the drainage in question.

3.3 ALTERNATIVE 1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS AND MITIGATIONS

The project considered in this evaluation of impacts to biological resources is the development of wastewater treatment facilities on approximately 7.4 acres of relatively undisturbed desert scrub lands west of the existing treatment facility at the NAWS site and the construction of 90 acres of treatment ponds at the City site. Additionally, some existing waste treatment facilities will be demolished. This action will result in permanent disturbance to approximately 80 acres of desert scrub habitat and approximately 50 acres of ruderal habitat at the City site and approximately 7.4 acres of desert scrub habitat at the NAWS site.

3.3.1 Project Related Mortality or Disturbance to Le Conte's Thrasher and Other Nesting Migratory Birds

Potential Impacts. The project site has the potential to be used for nesting by the Le Conte's thrasher and a number of other avian species protected under the federal Migratory Bird Treaty Act and related state laws. If any birds were to nest on the project site prior to construction, project-related activities could result in the abandonment of active nests or direct mortality to birds. Such an activity would constitute a violation of state and federal laws (see Section 3.2.3) and would be considered a significant impact under CEQA.

Mitigation. In order to minimize construction disturbance to Le Conte's thrasher and other migratory bird nests, the applicant will implement one or more of the following measure(s) as necessary, prior to project construction:

Mitigation 3.3.1a (Avoidance). In order to avoid impacts to all nesting birds from construction activities, these activities will occur outside of the typical avian nesting season, or between September 1 and January 31.

Mitigation 3.3.1b (Pre-construction surveys). If construction must occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active migratory bird nests within 15 days of the onset of these activities.

Mitigation 3.3.1c (Establish buffers). Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.

Implementation of the above measures will reduce potential project impacts to Le Conte's thrasher and other nesting migratory birds to a less than significant level under CEQA, and ensure that the project will be in compliance with state and federal laws protecting nesting birds.

3.3.2 Project Impacts to Desert Tortoise from Construction Mortality

Potential Impacts. The project site contains areas of relatively undisturbed desert scrub habitat. Much of the desert scrub habitat on the site provides relatively low quality desert tortoise habitat due to the low density of creosote bushes and the presence of nearby development that increases the chances of potentially harmful encounters with humans, ravens, and domestic dogs. Nonetheless, desert tortoise could potentially occur within this habitat on the project site. Ruderal lands of the project site are unlikely to support desert tortoise due to the lack of suitable vegetation for foraging and cover and regular human disturbance. Should a desert tortoise occur in desert scrub habitat at the time of construction, then construction related activities have the potential to cause desert tortoise mortality. Project related mortality of desert tortoise is a potentially significant impact under CEQA and would be a violation of state and federal laws protecting the species.

Mitigation. Prior to construction, the following measures adapted from the *U.S. Fish and Wildlife Service Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (December 2009) will be implemented.

Mitigation Measure 3.3.2a (Pre-construction Surveys). Pre-construction surveys will be conducted in suitable desert tortoise habitats on the project site prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the desert tortoise. These surveys will be conducted in accordance with the USFWS *Desert Tortoise Field Manual*.

Mitigation Measure 3.3.2b (Consultation and Permitting). Survey results will be submitted to the USFWS and CDFW. Should surveys find a desert tortoise or desert tortoise sign (burrows, scat, and carcasses) consultation with the USFWS and CDFW will likely result in the requirement of “take authorization” in the form of a Biological Opinion (BO) issued by the USFWS and an Incidental Take Permit (ITP) issued by the CDFW in order for the project to lawfully proceed.

Mitigation Measure 3.3.2c (Permit Compliance). The project applicant will comply with all conditions of a BO and ITP issued for the project. Conditions of these permits generally include but are not limited to compensatory mitigation, a Desert Tortoise Translocation Plan, additional surveys, a Habitat Restoration and Revegetation Plan, an Exclusionary Fencing Plan, a Worker Environmental Awareness and Training Program, monitoring, and a Trash Abatement Program.

Implementation of these measures will reduce construction related impacts to the desert tortoise to a less than significant level under CEQA, ensure compliance with state and federal law, and minimize the risk that construction activities during project development would result in mortality to individual tortoises.

3.3.3 Project Impacts to Burrowing Owls from Construction Mortality

Potential Impacts. Evidence of past or present burrowing owl occupation of the project site was not observed during the survey conducted by LOA in June of 2015. In fact, suitable nesting habitat in the form of suitably sized burrows was also not observed during the field survey. However, if burrowing owls were to occur on or adjacent to the site prior to project construction, ground disturbance from construction related activities could result in the mortality of burrowing owls through burying of individual owls during earth moving activities or nest abandonment. These small raptors are protected under the federal Migratory Bird Treaty Act and Fish and Game Code. Mortality of individual birds would be a violation of state and federal law. Mortality of individual burrowing owls would constitute a potentially significant impact of the project under CEQA.

Mitigation. Prior to project construction one or more of the following measures will be implemented as necessary:

Mitigation Measure 3.3.3a (Take Avoidance Surveys). A take avoidance survey will be conducted by a qualified biologist for burrowing owls within 30 days of the onset of construction. This take avoidance survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The survey

area will include all suitable habitat within and up to 500 feet outside of project impact areas, where accessible.

Mitigation Measure 3.3.3b (Avoidance of Active Nests). If take avoidance surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet should be established around all active owl nests. The buffer areas should be enclosed with temporary fencing, and construction equipment and workers should not enter the enclosed setback areas. Buffers should remain in place for the duration of the breeding season. After the breeding season (i.e. once all young have left the nest), passive relocation of any remaining owls may take place as described below.

Mitigation Measure 3.3.3c (Passive Relocation of Resident Owls). During the non-breeding season (September through January), resident owls occupying burrows in areas proposed for development may be relocated to alternative habitat. The relocation of resident owls must be conducted according to a relocation plan prepared by a qualified biologist. Passive relocation will be the preferred method of relocation.

Compliance with the above mitigation measures will reduce construction related impacts to burrowing owls to a less than significant level under CEQA, and ensure compliance with state and federal laws protecting nesting raptors and migratory birds.

3.3.4 Project Impacts to Mohave Ground Squirrel from Construction Mortality

Potential Impacts. Areas of the project site containing desert scrub habitat provide potential foraging and breeding habitat for the Mohave ground squirrel. This species has been documented in similar habitat adjacent to the project site. Ruderal and agricultural lands of the project site provide unsuitable to marginal Mohave ground squirrel habitat. If Mohave ground squirrel were present at the time of construction, then construction related activities have the potential to cause Mohave ground squirrel mortality. Project related mortality of Mohave ground squirrels is a potentially significant impact under CEQA and would be a violation of the state ESA.

Mitigation. Prior to construction, the following measures will be implemented.

Mitigation Measure 3.3.4a (Pre-construction Surveys). Protocol level surveys will be conducted in desert scrub habitats of the project site prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the Mohave ground squirrel. These surveys will be conducted by a qualified biologist in accordance with the CDFW's *Mohave Ground Squirrel Survey Guidelines* (July 2010).

The surveys consist of visual surveys and trapping surveys if visual surveys fail to detect the species. Negative results of these surveys are valid for one year.

Mitigation Measure 3.3.4b (Consultation and Permitting). Survey results will be submitted to the CDFW. Should surveys find Mohave ground squirrel on site, consultation with the CDFW will be required, and likely result in the requirement of “take authorization” in the form of an Incidental Take Permit (ITP).

Mitigation Measure 3.3.4c (Permit Compliance). If an ITP is issued for the project, the project applicant will comply with all conditions of the ITP. Conditions of this permit generally include but are not limited to compensatory mitigation, a Worker Environmental Awareness and Training Program, monitoring, ground squirrel burrow excavation and relocation of Mohave ground squirrels, and reporting.

Implementation of these measures will reduce construction related impacts to the Mohave ground squirrel to a less than significant level under CEQA, ensure compliance with state law, and minimize the risk that construction activities during project development would result in mortality to individual Mohave ground squirrels.

3.3.5 Construction Mortality of the American Badger

Potential Impacts. Evidence of past or present American badger occupation of the project site in the form of suitably sized burrows or evidence of badger digging was not observed during the survey conducted by LOA in June of 2015. However, potentially suitable habitat occurs within desert scrub portions of the project site. If badgers were to occur on the project site prior to construction, ground disturbance from construction related activities could result in the mortality of American badgers. Mortality of individual badgers would constitute a potentially significant impact of the project under CEQA.

Mitigation. The following measures will be implemented to avoid and minimize the potential for project-related mortality of American badgers.

Mitigation Measure 3.3.5a (Preconstruction Surveys). A preconstruction survey for American badgers will be conducted by a qualified biologist within 30 days of the onset of construction, within desert scrub habitats of the project site.

Mitigation Measure 3.3.5b (Avoidance). Should an active sleeping den be identified during the preconstruction surveys, the den shall be identified in the field with brightly-colored fencing or flagging, and avoided until a qualified biologist has determined that it has been abandoned. Should an active natal den be identified, a suitable disturbance-free

buffer will be established around the den and maintained until a qualified biologist has determined that the cubs have dispersed or the den has been abandoned.

Implementation of these measures will reduce potential construction related project impacts to the American badger to a less than significant level.

3.4 ALTERNATIVE 1 LESS THAN SIGNIFICANT PROJECT IMPACTS

3.4.1 Loss of Habitat for Special Status Plants

Potential Impacts. Three special status vascular plant species are known to occur in the vicinity of the project site (see Table 1). These plant species are considered absent from the project site due to the absence of suitable habitat. Therefore, the proposed project would have no impact on regional populations of these special status plant species.

Mitigation. Mitigation measures are not warranted.

3.4.2 Loss of Habitat or Direct Impact to Special Status Animals Absent or Unlikely to Occur on the Site

Potential Impacts. Of the 13 special status animal species potentially occurring in the region, four species would be absent or unlikely to occur on the site due to the absence of suitable habitat, or the project's location outside the known range of the species. These species include the Mohave tui chub, Inyo California towhee, California condor, and desert bighorn sheep. Since there is little to no likelihood that these species would use the site, disturbance from future development of the project site would have no effect on these species.

Mitigation. No mitigations are warranted.

3.4.3 Loss of Habitat for Special Status Animals that may Occur on the Site as Occasional or Regular Foragers but Breed Elsewhere

Four species may utilize the site for foraging only. These species include the long-eared owl, Townsend's big-eared bat, spotted bat, and pallid bat. Similar and more suitable foraging habitat is abundant throughout the region. Furthermore, the air space above the completed project will continue to provide nearly the same foraging opportunity for bats due to the increase in water to the area that may result in greater numbers of flying insect. Therefore, the project would not

significantly reduce the amount or quality of foraging habitat currently available in the region for these four species.

Mitigation. No mitigations are warranted.

3.4.4 Loss of Habitat for Special Status Animals that may Breed and Forage on the Site

Five species may utilize desert scrub habitat on the site for breeding and foraging, of which approximately 87 acres would experience permanent impacts. These species include the desert tortoise, Le Conte's thrasher, burrowing owl, Mohave ground squirrel, and American badger. The habitat value of onsite desert scrub habitat is diminished by the close proximity of human development. None of these species were observed on the project site during the June field survey and no CNDDDB occurrences of these species exist on the project site. Actual use of the project site by these species is unknown at this time. Many square miles of similar and more suitable foraging habitat is abundant throughout the region, including numerous acres of desert scrub habitat monitored and managed by the Department of the Navy located within the NAWS. For the reasons stated above, the project would not significantly reduce the amount or quality of foraging habitat currently available in the region for these five species.

Mitigation. No mitigations are warranted.

3.4.5 Project Impacts to Fish or Wildlife Movement Corridors

Potential Impacts. The project site contains no geographic elements characteristic of a movement corridor (i.e. ridge tops, significant drainages, riparian corridors, etc.) and does not serve as a fish or wildlife movement corridor. Because no part of the project site serves as a fish and wildlife movement corridor, the project will have no effect on regional fish or wildlife movements

Mitigation. Mitigation measures are not warranted.

3.4.6 Disturbance to Riparian Habitat or other Sensitive Habitats and Critical Habitat

Potential Impacts. No riparian or other sensitive habitats occur on the project site. Furthermore, no designated critical habitat occurs on or near the project site. Therefore, there will be no project effect on riparian, sensitive, or critical habitat.

Mitigation. Mitigations are not warranted.

3.4.7 Disturbance to Waters of the United States

Potential Impacts. Waters of the U.S. are absent from the project site and adjacent lands; therefore, there will be no project impacts to Waters of the U.S.

Mitigation. Mitigations are not warranted.

3.4.8 Degradation of Water Quality in Downstream Waters

Potential Impacts. Extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. However, hydrologic features are absent for the project site and surrounding lands. Furthermore, the project area is flat and receives very little rainfall. Therefore, project impacts to downstream waters are considered less than significant.

Mitigation Mitigations are not warranted.

3.4.9 Local Policies or Habitat Conservation Plans

Potential Impacts. The project will comply with the provisions of the 2030 City of Ridgecrest General Plan and 2007 County of San Bernardino General Plan policies (as amended in 2014) related to biological resources. These policies can be found in Attachment D. No habitat conservation plans are in effect for the project area.

Mitigation. Mitigations are not warranted.

3.5 ALTERNATIVE 2 POTENTIALLY SIGNIFICANT PROJECT IMPACTS AND MITIGATION

The project considered in this evaluation of impacts to biological resources is the development of wastewater treatment facilities on portions of 230 acres of City owned land that contain wastewater ponds, an off-road vehicle park and other ruderal lands, and vacant land containing desert scrub habitat. Proposed development would convert approximately 60 acres of ruderal lands and 80 acres of desert scrub habitat to new wastewater treatment facilities. Also, this project will entail the underground installation of approximately four miles of piping that will connect with the City of Ridgecrest WWTP with the NAWS WWTP. The pipeline installation will require an 80 foot wide temporary disturbance corridor along the length of the four-mile long pipeline. Habitats within the pipeline disturbance corridor include desert scrub, ruderal, and ephemeral drainage habitat. Elements of the existing NAWS waste treatment plant will be demolished.

3.5.1 Project Related Mortality or Disturbance to Le Conte's Thrasher and Other Nesting Migratory Birds

Potential Impacts. The project site has the potential to be used for nesting by the Le Conte's thrasher and a number of other avian species protected under the federal Migratory Bird Treaty Act and related state laws. If any birds were to nest on the project site prior to construction, project-related activities could result in the abandonment of active nests or direct mortality to birds. Such an activity would constitute a violation of state and federal laws (see Section 3.2.3) and would be considered a significant impact under CEQA.

Mitigation. In order to minimize construction disturbance to Le Conte's thrasher and other migratory bird nests, the applicant will implement one or more of the following measure(s) as necessary, prior to project construction:

Mitigation 3.5.1a (Avoidance). In order to avoid impacts to all nesting birds from construction activities, these activities will occur outside of the typical avian nesting season, or between September 1 and January 31.

Mitigation 3.5.1b (Pre-construction surveys). If construction must occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active migratory bird nests within 15 days of the onset of these activities.

Mitigation 3.5.1c (Establish buffers). Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.

Implementation of the above measures will reduce potential project impacts to Le Conte's thrasher and other nesting migratory birds to a less than significant level under CEQA, and ensure that the project will be in compliance with state and federal laws protecting nesting birds.

3.5.2 Project Impacts to Desert Tortoise from Construction Mortality

Potential Impacts. The project site contains areas of relatively undisturbed desert scrub habitat. Much of the desert scrub habitat on the site provides relatively low quality desert tortoise habitat due to the low density of creosote bushes and the presence of nearby development that increases the chances of potentially harmful encounters with humans, ravens, and domestic dogs. Nonetheless, desert tortoise could potentially occur within this habitat on the project site. Ruderal lands of the project site are unlikely to support desert tortoise due to the lack of suitable vegetation for foraging and cover and regular human disturbance. Should a desert tortoise occur in desert scrub habitat at the time of construction, then construction related activities have the potential to cause desert tortoise mortality. Project related mortality of desert tortoise is a potentially significant impact under CEQA and would be a violation of state and federal laws protecting the species.

Mitigation. Prior to construction, the following measures adapted from the *U.S. Fish and Wildlife Service Desert Tortoise (Mojave Population) Field Manual (Gopherus agassizii)* (December 2009) will be implemented.

Mitigation Measure 3.5.2a (Pre-construction Surveys). Pre-construction surveys will be conducted in suitable desert tortoise habitats on the project site prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the desert tortoise. These surveys will be conducted in accordance with the USFWS *Desert Tortoise Field Manual*.

Mitigation Measure 3.5.2b (Consultation and Permitting). Survey results will be submitted to the USFWS and CDFW. Should surveys find a desert tortoise or desert tortoise sign (burrows, scat, and carcasses) consultation with the USFWS and CDFW will likely result in the requirement of "take authorization" in the form of a Biological Opinion

(BO) issued by the USFWS and an Incidental Take Permit (ITP) issued by the CDFW in order for the project to lawfully proceed.

Mitigation Measure 3.5.2c (Permit Compliance). The project applicant will comply with all conditions of a BO and ITP issued for the project. Conditions of these permits generally include but are not limited to compensatory mitigation, a Desert Tortoise Translocation Plan, additional surveys, a Habitat Restoration and Revegetation Plan, an Exclusionary Fencing Plan, a Worker Environmental Awareness and Training Program, monitoring, and a Trash Abatement Program.

Implementation of these measures will reduce construction related impacts to the desert tortoise to a less than significant level under CEQA, ensure compliance with state and federal law, and minimize the risk that construction activities during project development would result in mortality to individual tortoises.

3.5.3 Project Impacts to Burrowing Owls from Construction Mortality

Potential Impacts. Evidence of past or present burrowing owl occupation of the project site was not observed during the survey conducted by LOA in June of 2015. In fact, suitable nesting habitat in the form of suitably sized burrows was also not observed during the field survey. However, if burrowing owls were to occur on or adjacent to the site prior to project construction, ground disturbance from construction related activities could result in the mortality of burrowing owls through burying of individual owls during earth moving activities or nest abandonment. These small raptors are protected under the federal Migratory Bird Treaty Act and Fish and Game Code. Mortality of individual birds would be a violation of state and federal law. Mortality of individual burrowing owls would constitute a potentially significant impact of the project under CEQA.

Mitigation. Prior to project construction one or more of the following measures will be implemented as necessary:

Mitigation Measure 3.5.3a (Take Avoidance Surveys). A take avoidance survey will be conducted by a qualified biologist for burrowing owls within 30 days of the onset of construction. This take avoidance survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The survey area will include all suitable habitat within and up to 500 feet outside of project impact areas, where accessible.

Mitigation Measure 3.5.3b (Avoidance of Active Nests). If take avoidance surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet should be established around all active owl nests. The buffer areas should be enclosed with temporary fencing, and construction equipment and workers should not enter the enclosed setback areas. Buffers should remain in place for the duration of the breeding season. After the breeding season (i.e. once all young have left the nest), passive relocation of any remaining owls may take place as described below.

Mitigation Measure 3.5.3c (Passive Relocation of Resident Owls). During the non-breeding season (September through January), resident owls occupying burrows in areas proposed for development may be relocated to alternative habitat. The relocation of resident owls must be conducted according to a relocation plan prepared by a qualified biologist. Passive relocation will be the preferred method of relocation.

Compliance with the above mitigation measures will reduce construction related impacts to burrowing owls to a less than significant level under CEQA, and ensure compliance with state and federal laws protecting nesting raptors and migratory birds.

3.5.4 Project Impacts to Mohave Ground Squirrel from Construction Mortality

Potential Impacts. Areas of the project site containing desert scrub habitat provide potential foraging and breeding habitat for the Mohave ground squirrel. This species has been documented in similar habitat adjacent to the project site. Ruderal and agricultural lands of the project site provide unsuitable to marginal Mohave ground squirrel habitat. If Mohave ground squirrel were present at the time of construction, then construction related activities have the potential to cause Mohave ground squirrel mortality. Project related mortality of Mohave ground squirrels is a potentially significant impact under CEQA and would be a violation of the state ESA.

Mitigation. Prior to construction, the following measures will be implemented.

Mitigation Measure 3.5.4a (Pre-construction Surveys). Protocol level surveys will be conducted in desert scrub habitats of the project site prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the Mohave ground squirrel. These surveys will be conducted by a qualified biologist in accordance with the CDFW's *Mohave Ground Squirrel Survey Guidelines* (July 2010). The surveys consist of visual surveys and trapping surveys if visual surveys fail to detect the species. Negative results of these surveys are valid for one year.

Mitigation Measure 3.5.4b (Consultation and Permitting). Survey results will be submitted to the CDFW. Should surveys find Mohave ground squirrel on site, consultation with the CDFW will be required, and likely result in the requirement of “take authorization” in the form of an Incidental Take Permit (ITP).

Mitigation Measure 3.5.4c (Permit Compliance). If an ITP is issued for the project, the project applicant will comply with all conditions of the ITP. Conditions of this permit generally include but are not limited to compensatory mitigation, a Worker Environmental Awareness and Training Program, monitoring, ground squirrel burrow excavation and relocation of Mohave ground squirrels, and reporting.

Implementation of these measures will reduce construction related impacts to the Mohave ground squirrel to a less than significant level under CEQA, ensure compliance with state law, and minimize the risk that construction activities during project development would result in mortality to individual Mohave ground squirrels.

3.5.5 Construction Mortality of the American Badger

Potential Impacts. Evidence of past or present American badger occupation of the project site in the form of suitably sized burrows or evidence of badger digging was not observed during the survey conducted by LOA in June of 2015. However, potentially suitable habitat occurs within desert scrub portions of the project site. If badgers were to occur on the project site prior to construction, ground disturbance from construction related activities could result in the mortality of American badgers. Mortality of individual badgers would constitute a potentially significant impact of the project under CEQA.

Mitigation. The following measures will be implemented to avoid and minimize the potential for project-related mortality of American badgers.

Mitigation Measure 3.5.5a (Preconstruction Surveys). A preconstruction survey for American badgers will be conducted by a qualified biologist within 30 days of the onset of construction, within desert scrub habitats of the project site.

Mitigation Measure 3.5.5b (Avoidance). Should an active sleeping den be identified during the preconstruction surveys, the den shall be identified in the field with brightly-colored fencing or flagging, and avoided until a qualified biologist has determined that it has been abandoned. Should an active natal den be identified, a suitable disturbance-free buffer will be established around the den and maintained until a qualified biologist has determined that the cubs have dispersed or the den has been abandoned.

Implementation of these measures will reduce potential construction related project impacts to the American badger to a less than significant level.

3.5.6 Degradation of Water Quality in Downstream Waters

Potential Impacts. Extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. Hydrologic features found on the study area consist of a small ephemeral drainage. Project construction may result in the deposition of sediment or pollutants into portions of this drainage. In addition, the project may result in the placement of fill or the deposition of sediment in the onsite ephemeral drainage, portions of which appear to meet the definition of a water of the state. Direct impacts to a water of the state require a Notification of Waste Discharge submitted to the RWQCB for review. The CDFW may also assert jurisdiction over this drainage, in which case a Stream Alteration Agreement would be issued by CDFW, upon review of a completed notification form. Such impacts are considered a potentially significant impact of the project under CEQA.

Mitigation. Prior to the start of construction, the applicant will implement the following mitigation measures.

Measure 3.5.6a (Preparation of erosion control plan). Prior to the start of construction, an erosion control plan will be prepared. Typically, specified erosion control measures must be implemented prior to the onset of the rainy season. The site must then be monitored periodically throughout the rainy season to ensure that the erosion control measures are successfully preventing onsite erosion and the concomitant deposition of sediment in onsite and offsite drainages. Elements of this plan would address both the potential for soil erosion and non-point source pollution. At a minimum, elements of the erosion control plan will include the following:

- 1) Protection of exposed graded slopes from sheet, rill and gully erosion. Such protection could be in the form of erosion control fabric, hydromulch containing the seed of native soil-binding plants, straw mechanically imbedded in exposed soils, or some combination of the three.
- 2) Use of best management practices (BMPs) to control soil erosion and non-point source pollution. BMPs may include measures 1 above, but they may include any

number of additional measures appropriate for this particular site and this particular project, including grease traps in parking areas, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.

Implementation of an erosion control plan as discussed above will reduce impacts to water quality in downstream waters to a less than significant level.

3.6 ALTERNATIVE 2 LESS THAN SIGNIFICANT PROJECT IMPACTS

3.6.1 Loss of Habitat for Special Status Plants

Potential Impacts. Three special status vascular plant species are known to occur in the vicinity of the project site (see Table 1). These plant species are considered absent from the project site due to the absence of suitable habitat. Therefore, the proposed project would have no impact on regional populations of these special status plant species.

Mitigation. Mitigation measures are not warranted.

3.6.2 Loss of Habitat or Direct Impact to Special Status Animals Absent or Unlikely to Occur on the Site

Potential Impacts. Of the 13 special status animal species potentially occurring in the region, four species would be absent or unlikely to occur on the site due to the absence of suitable habitat, or the project's location outside the known range of the species. These species include the Mohave tui chub, Inyo California towhee, California condor, and desert bighorn sheep. Since there is little to no likelihood that these species would use the site, disturbance from future development of the project site would have no effect on these species.

Mitigation. No mitigations are warranted.

3.6.3 Loss of Habitat for Special Status Animals that may Occur on the Site as Occasional or Regular Foragers but Breed Elsewhere

Four species may utilize the site for foraging only. These species include the long-eared owl, Townsend's big-eared bat, spotted bat, and pallid bat. Similar and more suitable foraging habitat is abundant throughout the region. Furthermore, the air space above the completed project will continue to provide nearly the same foraging opportunity for bats due to the increase in water to

the area that may result in greater numbers of flying insect. Therefore, the project would not significantly reduce the amount or quality of foraging habitat currently available in the region for these four species.

Mitigation. No mitigations are warranted.

3.6.4 Loss of Habitat for Special Status Animals that may Breed and Forage on the Site

Five species may utilize desert scrub habitat on the site for breeding and foraging, of which approximately 80 acres would experience permanent impacts. These species include the desert tortoise, Le Conte's thrasher, burrowing owl, Mohave ground squirrel, and American badger. The habitat value of onsite desert scrub habitat is diminished by the close proximity of human development. None of these species were observed on the project site during the June field survey and no CNDDDB occurrences of these species exist on the project site. Actual use of the project site by these species is unknown at this time. Many square miles of similar and more suitable foraging habitat is abundant throughout the region, including numerous acres of desert scrub habitat monitored and managed by the Department of the Navy located within the NAWS. For the reasons stated above, the project would not significantly reduce the amount or quality of foraging habitat currently available in the region for these five species.

Mitigation. No mitigations are warranted.

3.6.5 Project Impacts to Fish or Wildlife Movement Corridors

Potential Impacts. The project site contains no geographic elements characteristic of a movement corridor (i.e. ridge tops, significant drainages, riparian corridors, etc.) and does not serve as a fish or wildlife movement corridor. Because no part of the project site serves as a fish and wildlife movement corridor, the project will have no effect on regional fish or wildlife movements

Mitigation. Mitigation measures are not warranted.

3.6.6 Disturbance to Riparian Habitat or other Sensitive Habitats and Critical Habitat

Potential Impacts. No riparian or other sensitive habitats occur on the project site. Furthermore, no designated critical habitat occurs on or near the project site. Therefore, there will be no project effect on riparian, sensitive, or critical habitat.

Mitigation. Mitigations are not warranted.

3.6.7 Disturbance to Waters of the United States

Potential Impacts. Waters of the U.S. are absent from the project site and adjacent lands; therefore, there will be no project impacts to Waters of the U.S.

Mitigation. Mitigations are not warranted.

3.6.8 Local Policies or Habitat Conservation Plans

Potential Impacts. The project will comply with the provisions of the 2030 City of Ridgecrest General Plan and 2007 County of San Bernardino General Plan policies (as amended in 2014) related to biological resources. These policies can be found in Attachment D. No habitat conservation plans are in effect for the project area.

Mitigation. Mitigations are not warranted.

3.7 ALTERNATIVE 3 (NO ACTION ALTERNATIVE) PROJECT IMPACT STATEMENT

Under this alternative the City of Ridgecrest would continue to utilize the existing WWTP infrastructure at both the NAWS site and City site in the same manner as they currently do to treat City wastewater. This project alternative would result in no additional alterations to biotic habitats than currently occur during routine operations and maintenance activities associated with the NAWS and City WWTPs. Therefore, Project Alternative 3 impacts to sensitive or protected biological resources would be absent.

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

The plants species listed below were observed on the Ridgecrest WWTP Project Alternative sites during a survey conducted by Live Oak Associates, Inc. on June 8 and 9, 2015. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
 FACW - Facultative Wetland
 FAC - Facultative
 FACU - Facultative Upland
 UPL - Upland
 +/- - Higher/lower end of category
 NR - No review
 NA - No agreement
 NI - No investigation

AGAVACEAE – Agave Family

Yucca sp. Yucca UPL

AMARANATHACEAE – Amaranth Family

Amaranthus albus Pigweed amaranth FACU

APOCYNACEAE – Dogbane Family

Nerium oleander Oleander UPL

ASTERACEAE – Sunflower Family

Ambrosia acanthicarpa Annual bursage UPL

Ambrosia dumosa White bur-sage UPL

Camissonia campestris Sun cups UPL

Helianthus annuus Annual sunflower FACU

Lactuca serriola Prickly lettuce FACU

Lasthenia californica Goldfields FACU

Psathyrotes annua Annual psathyrotes UPL

Stephanomeria pauciflora Wire lettuce UPL

BORAGINACEAE – Borage Family

Amsinckia tessellata Fiddleneck UPL

Cryptantha angustifolia Narrow leaved cryptantha UPL

Heliotropium curassavicum Salt heliotrope FACU

BRASSICACEAE – Mustard Family

Lepidium fremontii Bush peppergrass UPL

Lepidium latifolium Broadleaved peppergrass FAC

Lepidium nitidum Shinning peppergrass FAC

Sisymbrium sp. Mustard

Stanleya pinnata Prince’s plume UPL

CACTACEAE - Cactus Family

Cylindropuntia echinocarpa Silver cholla UPL

CHENOPODIACEAE – Goosefoot Family

Atriplex polycarpa Allscale FACU

| | | |
|---|------------------------|------|
| <i>Atriplex serenana</i> var. <i>serenana</i> | Bractscale | FAC |
| <i>Atriplex spinifera</i> | Mojave saltbush | FAC |
| <i>Salsola tragus</i> | Russian thistle | FACU |
| CONVOLVULACEAE – Morning Glory Family | | |
| <i>Cuscuta denticulata</i> | Desert dodder | UPL |
| CUPRESSACEAE – Cypress Family | | |
| <i>Juniperus</i> sp. | Juniper | UPL |
| CYPERACEAE – Sedge Family | | |
| <i>Bolboschoenus robustus</i> | Sturdy bullrush | OBL |
| EUPHORBIACEAE - Spurge Family | | |
| <i>Chamaesyce albomarginata</i> | Rattlesnake weed | UPL |
| <i>Croton setiger</i> | Turkey-mullein | UPL |
| FABACEAE – Legume Family | | |
| <i>Senna armata</i> | Desert Senna | UPL |
| GERANIACEAE – Geranium Family | | |
| <i>Erodium cicutarium</i> | Red-stemmed filaree | UPL |
| MALVACEAE – Mallow Family | | |
| <i>Malva</i> sp. | Cheeseweed | UPL |
| MORACEAE – Mulberry Family | | |
| <i>Morus alba</i> | White mulberry | UPL |
| MYRTACEAE – Bottlebrush Family | | |
| <i>Eucalyptus camaldulensis</i> | Red gum | UPL |
| ONAGRACEAE – Evening Primrose Family | | |
| <i>Camissonia campestris</i> | Mojave sun cups | UPL |
| PINACEAE – Pine Family | | |
| <i>Pinus eldarica</i> | Afghan Pine | UPL |
| PLANTAGINACEAE – Plantain Family | | |
| <i>Plantago ovata</i> | Desert plantain | FACU |
| POACEAE - Grass Family | | |
| <i>Bromus madritensis</i> ssp. <i>rubens</i> | Red brome | UPL |
| <i>Cynodon dactylon</i> | Bermuda grass | FAC |
| <i>Hordeum murinum</i> ssp. <i>leporinum</i> | Barnyard garley | FACU |
| <i>Polypogon monspeliensis</i> | Rabbit’s foot grass | FACW |
| <i>Schismus</i> sp. | Schismus | UPL |
| POLYGONACEAE - Buckwheat Family | | |
| <i>Rumex crispus</i> | Curly dock | FAC |
| RANUNCULACEAE - Buttercup Family | | |
| <i>Clematis ligusticifolia</i> | Western virgin's bower | FAC |
| SALICACEAE – Willow Family | | |
| <i>Populus fremontii</i> | Fremont cottonwood | UPL |
| SOLOACEAE – Nightshade Family | | |
| <i>Datura wrightii</i> | Datura | UPL |
| TAMARICACEAE – Tamarisk Family | | |
| <i>Tamarix</i> sp. | Tamarisk | FAC |
| ZYGOPHYLLACEAE - Caltrop Family | | |
| <i>Larrea tridentata</i> | Creosote | UPL |

**APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY
OCCUR ON THE PROJECT SITE**

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may reasonably be expected to use the habitats of the project site routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed in or adjacent to the Ridgecrest WWTP Project Alternative sites during surveys conducted by Live Oak Associates, Inc. on June 8 and 9, 2015 have been noted with an asterisk.

CLASS: REPTILIA (Reptiles)

ORDER: TESTUDINES (Turtles)

FAMILY: TESTUDINIDAE (True Land Tortoises)

Desert Tortoise (*Gopherus agassizii*)

ORDER: SQUAMATA (Lizards and Snakes)

FAMILY: EUBLEPHARIDAE (Eyelid Geckos)

Western Banded Gecko (*Coleonyx variegates*)

FAMILY: IGUANIDAE (Iguanids)

Desert Iguana (*Dipsosaurus dorsalis*)

FAMILY: CROTAPHYTIDAE (Collared and Leopard Lizards)

Long-Nosed Leopard Lizard (*Gambelia wislizenii*)

FAMILY: PHRYNOSOMATIDAE

Zebra-Tailed Lizard (*Callisaurus draconoides*)

Western Fence Lizard (*Sceloporus occidentalis*)

Sagebrush Lizard (*Sceloporus graciosus*)

Common Side-Blotched Lizard (*Uta stansburiana*)

Desert Horned Lizard (*Phrynosoma platyrhinos*)

FAMILY: XANTUSIIDAE (Night Lizards)

Desert Night Lizard (*Xantusia vigilis*)

FAMILY: TEIIDAE (Whiptails and Relatives)

*Western Whiptail (*Aspidoscelis tigris*)

FAMILY: COLUBRIDAE (Colubrids)

Spotted Leaf-Nosed Snake (*Phyllorhynchus decurtatus*)

Red Racer (*Coluber flagellum*)

Desert Striped Whipsnake (*Masticophis taeniatus*)

Mohave Patch-Nosed Snake (*Salvadora hexalepis mojavensis*)

Gopher Snake (*Pituophis catenifer*)

Glossy Snake (*Arizona elegans*)

Common Kingsnake (*Lampropeltis getula*)

Long-Nosed Snake (*Rhinocheilus lecontei*)

Western Shovel-Nosed Snake (*Chionactis occipitalis*)

Night Snake (*Hypsiglena torquata*)

FAMILY: VIPERIDAE (Vipers)

Mojave Desert Sidewinder (*Crotalus cerastes cerastes*)

Northern Mojave Rattlesnake (*Crotalus scutulatus scutulatus*)

CLASS: AVES (Birds)

ORDER: GAVIIFORMES (Loons)

FAMILY: PODICIPEDIDAE (Grebes)

Pied-Billed Grebe (*Podilymbus podiceps*)

*Eared Grebe (*Podiceps nigricollis*)

ORDER: PELECANIFORMES (Tropicbirds, Pelicans and Relatives)

FAMILY: PHALACROCORACIDAE (Cormorants)

*Double-Crested Cormorant (*Phalacrocorax auritus*)

ORDER: CICONIIFORMES (Hérons, Storks, Ibises and Relatives)

FAMILY: ARDEIDAE (Hérons and Bitterns)

*Great Blue Heron (*Ardea herodias*)

*Green Heron (*Butorides virescens*)

FAMILY: THRESKIORNITHIDAE (Ibises and Spoonbills)

*White-Faced Ibis (*Plegadis chihi*)

FAMILY: CATHARTIDAE (New World Vultures)

*Turkey Vulture (*Cathartes aura*)

ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)

FAMILY: ANATIDAE (Swans, Geese and Ducks)

Snow Goose (*Chen caerulescens*)

Canada Goose (*Branta Canadensis*)

Trumpeter Swan (*Cygnus buccinator*)

*Gadwall (*Anas strepera*)

American Wigeon (*Anas Americana*)

*Mallard (*Anas platyrhynchos*)

*Cinnamon Teal (*Anas cyanoptera*)

Northern Shoveler (*Anas clypeata*)

Northern Pintail (*Anas acuta*)

Green-Winged Teal (*Anas crecca*)

*Redhead (*Aythya Americana*)

Bufflehead (*Bucephala albeola*)

*Ruddy Duck (*Oxyura jamaicensis*)

ORDER: FALCONIFORMES (Vultures, Hawks and Falcons)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures and Harriers)

Northern Harrier (*Circus cyaneus*)

*Red-Tailed Hawk (*Buteo jamaicensis*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

*American Kestrel (*Falco sparverius*)

ORDER: GALLIFORMES (Magapodes, Curassows, Pheasants and Relatives)

FAMILY: ODONTOPHORIDAE (New World Quail)

*California Quail (*Callipepla californica*)

ORDER: GRUIFORMES (Cranes, Rails and Relatives)

FAMILY: RALLIDAE (Rails, Gallinules and Coots)

*Virginia Rail (*Rallus limicola*)

*Common Moorhen (*Gallinula chloropus*)

*American Coot (*Fulica americana*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls and Relatives)

FAMILY: CHARADRIIDAE (Plovers and Relatives)

*Killdeer (*Charadrius vociferus*)

FAMILY: RECURVIROSTRIDAE (Avocets and Stilts)

*Black-Necked Stilt (*Himantopus mexicanus*)

*American Avocet (*Recurvirostra americana*)

FAMILY: COLOPACIDAE (Sandpipers and Relatives)

Greater Yellowlegs (*Tringa melanoleuca*)

Lesser Yellowlegs (*Tringa flavipes*)

Spotted Sandpiper (*Actitis macularia*)

Western Sandpiper (*Calidris mauri*)

Least Sandpiper (*Calidris minutilla*)

Long-Billed Dowitcher (*Limnodromus scolopaceus*)

*Wilson's Phalarope (*Phalaropus tricolor*)

Red-Necked Phalarope (*Phalaropus lobatus*)

FAMILY: LARIDAE (Skuas, Gulls, Terns and Skimmers)

Ring-Billed Gull (*Larus delawarensis*)

*California Gull (*Larus californicus*)

Black Tern (*Chlidonias niger*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

*Rock Dove (*Columba livia*)

*Eurasian Collared-Dove (*Streptopelia decaocto*)

*Mourning Dove (*Zenaida macroura*)

ORDER: CUCULIFORMES (Cuckoos and Relatives)

FAMILY: CUCULIDAE (Typical Cuckoos)

Greater Roadrunner (*Geococcyx californianus*)

ORDER: STRIGIFORMES (Owls)

FAMILY: STRIGIDAE (Typical Owls)

*Great Horned Owl (*Bubo virginianus*)

Burrowing Owl (*Athene cunicularia*)

Long-Eared Owl (*Asio otus*)

ORDER: CAPRIMULGIFORME (Goatsuckers and Relatives)

FAMILY: CAPRIMULGIDAE (Goatsuckers)

*Lesser Nighthawk (*Chordeiles acutipennis*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: TROCHILIDAE (Hummingbirds)

Black-Chinned Hummingbird (*Archilochus alexandri*)

Anna's Hummingbird (*Calypte anna*)

Costa's Hummingbird (*Calypte costae*)

Rufous Hummingbird (*Selasphorus rufus*)

ORDER: PICIFORMES (Woodpeckers and Relatives)

FAMILY: PICIDAE (Woodpeckers and Wrynecks)

Red-Naped Sapsucker (*Sphyrapicus nuchalis*)

Ladder-Backed Woodpecker (*Picoides scalaris*)

Northern Flicker (*Colaptes auratus*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

- Greater Pewee (*Contopus pertinax*)
- Western Wood-Pewee (*Contopus sordidulus*)
- Pacific-Slope Flycatcher (*Empidonax difficilis*)
- Black Phoebe (*Sayornis nigricans*)
- *Say's Phoebe (*Sayornis saya*)
- Ash-Throated Flycatcher (*Myiarchus cinerascens*)
- *Western Kingbird (*Tyrannus verticalis*)

FAMILY: LANIIDAE (Shrikes)

- *Loggerhead Shrike (*Lanius ludovicianus*)

FAMILY: VIREONIDAE (Typical Vireos)

- Warbling Vireo (*Vireo gilvus*)

FAMILY: CORVIDAE (Jays, Magpies and Crows)

- *Common Raven (*Corvus corax*)

FAMILY: ALAUDIDAE (Larks)

- *Horned Lark (*Eremophila alpestris*)

FAMILY: HIRUNDINIDAE (Swallows)

- Tree Swallow (*Tachycineta bicolor*)
- Violet-Green Swallow (*Tachycineta thalassina*)
- *Northern Rough-Winged Swallow (*Stelgidopteryx serripennis*)
- Bank Swallow (*Riparia riparia*)
- Cliff Swallow (*Petrochelidon pyrrhonota*)
- Barn Swallow (*Hirundo rustica*)

FAMILY: REMIZIDAE (Verdin)

- Verdin (*Auriparus flaviceps*)

FAMILY: TROGLODYTIDAE (Wrens)

- Cactus Wren (*Campylorhynchus brunneicapillus*)
- Rock Wren (*Salpinctes obsoletus*)
- Bewick's Wren (*Thryomanes bewickii*)
- House Wren (*Troglodytes aedon*)
- Marsh Wren (*Cistothorus palustris*)

FAMILY: REGULIDAE (Kinglets)

- Ruby-Crowned Kinglet (*Regulus calendula*)

FAMILY: SYLVIIDAE (Old World Warblers and Gnatcatchers)

- Blue-Gray Gnatcatcher (*Polioptila caerulea*)

FAMILY: TURDIDAE (Thrushes)

- Western Bluebird (*Sialia mexicana*)
- Mountain Bluebird (*Sialia currucoides*)
- Hermit Thrush (*Catharus guttatus*)
- American Robin (*Turdus migratorius*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

- *Northern Mockingbird (*Mimus polyglottos*)
- Sage Thrasher (*Oreoscoptes montanus*)
- Le Conte's Thrasher (*Toxostoma lecontei*)

FAMILY: STURNIDAE (Starlings and Allies)

- European Starling (*Sturnus vulgaris*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

American Pipit (*Anthus rubescens*)

FAMILY: BOMBYCILLIDAE (Waxwings)

Cedar Waxwing (*Bombycilla cedrorum*)

FAMILY: Ptilogonatidae (Silky Flycatchers)

Phainopepla (*Phainopepla nitens*)

FAMILY: PARULIDAE (Wood Warblers and Relatives)

Orange-Crowned Warbler (*Vermivora celata*)

Yellow Warbler (*Dendroica petechia*)

Yellow-Rumped Warbler (*Dendroica coronata*)

Black-Throated Gray Warbler (*Dendroica nigrescens*)

Common Yellowthroat (*Geothlypis trichas*)

Wilson's Warbler (*Wilsonia pusilla*)

FAMILY: THRAUPIDAE (Tanagers)

Western Tanager (*Piranga ludoviciana*)

FAMILY: EMBERIZIDAE (Emberizines)

California Towhee (*Pipilo crissalis*)

Chipping Sparrow (*Spizella passerina*)

*Brewer's Sparrow (*Spizella breweri*)

*Black-Throated Sparrow (*Amphispiza bilineata*)

*Sage Sparrow (*Amphispiza belli*)

Savannah Sparrow (*Passerculus sandwichensis*)

Nelson's Sharp-Tailed Sparrow (*Ammodramus nelsoni*)

*Song Sparrow (*Melospiza melodia*)

Lincoln's Sparrow (*Melospiza lincolni*)

White-Crowned Sparrow (*Zonotrichia leucophrys*)

Dark-Eyed Junco (*Junco hyemalis*)

FAMILY: CARDINALIDAE (Cardinals, Grosbeaks and Allies)

Black-Headed Grosbeak (*Pheucticus melanocephalus*)

Lazuli Bunting (*Passerina amoena*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

Red-Winged Blackbird (*Agelaius phoeniceus*)

Western Meadowlark (*Sturnella neglecta*)

Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*)

Brewer's Blackbird (*Euphagus cyanocephalus*)

*Great-Tailed Grackle (*Quiscalus mexicanus*)

Brown-Headed Cowbird (*Molothrus ater*)

Bullock's Oriole (*Icterus bullockii*)

Scott's Oriole (*Icterus parisorum*)

FAMILY: FRINGILLIDAE (Finches)

House Finch (*Carpodacus mexicanus*)

Lesser Goldfinch (*Carduelis psaltria*)

Lawrence's Goldfinch (*Carduelis lawrencei*)

American Goldfinch (*Carduelis tristis*)

FAMILY: PASSERIDAE (Old World Sparrows)

House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA (Mammals)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Evening Bats)

- Little Brown Myotis (*Myotis lucifugus*)
- Fringed Myotis (*Myotis thysanodes*)
- Long-Legged Myotis (*Myotis volans*)
- California Myotis (*Myotis californicus*)
- Western Small-Footed Myotis (*Myotis ciliolabrum*)
- Western Pipistrelle (*Pipistrellus hesperus*)
- Big Brown Bat (*Eptesicus fuscus*)
- Spotted Bat (*Euderma maculatum*)
- Townsend's Big-Eared Bat (*Corynorhinus townsendii townsendii*)
- Pallid Bat (*Antrozous pallidus*)

FAMILY: MOLOSSIDAE (Free-tailed Bats)

- Brazilian Free-Tailed Bat (*Tadarida brasiliensis*)

ORDER: LAGOMORPHA (Rabbits, Hares and Pika)

FAMILY: LEPORIDAE (Rabbits and Hares)

- *Desert Cottontail (*Sylvilagus audubonii*)
- *Black-Tailed Jackrabbit (*Lepus californicus*)

ORDER: RODENTIA (Rodents)

FAMILY: SCIURIDAE (Squirrels, Chipmunks and Marmots)

- *White-Tailed Antelope Squirrel (*Ammospermophilus leucurus*)
- Mohave Ground Squirrel (*Spermophilus mohavensis*)

FAMILY: GEOMYIDAE (Pocket Gophers)

- Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: HETEROMYIDAE (Pocket Mice and Kangaroo Rats)

- Little Pocket Mouse (*Perognathus longimembris*)
- Long-Tailed Pocket Mouse (*Chaetodipus formosus*)
- Chisel-Toothed Kangaroo Rat (*Dipodomys microps*)
- Panamint Kangaroo Rat (*Dipodomys panamintinus*)
- Desert Kangaroo Rat (*Dipodomys deserti*)
- Merriam's Kangaroo Rat (*Dipodomys merriami*)

FAMILY: MURIDAE (Mice, Rats and Voles)

- Western Harvest Mouse (*Reithrodontomys megalotis*)
- Deer Mouse (*Peromyscus maniculatus*)
- Canyon Mouse (*Peromyscus crinitus*)
- Southern Grasshopper Mouse (*Onychomys torridus*)
- Desert Woodrat (*Neotoma lepida*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves and Relatives)

- Feral Dog (*Canis familiaris*)
- *Coyote (*Canis latrans*)
- Kit Fox (*Vulpes macrotis*)
- Gray Fox (*Urocyon cinereoargenteus*)

FAMILY: FELIDAE (Cats)

Feral Cat (*Felis catus*)
Bobcat (*Lynx rufus*)

APPENDIX C: SELECTED SITE PHOTOGRAPHS



Photo 1: Desert scrub habitat at the City site adjacent residential development in background.



Photo 2: Desert scrub habitat at the NAWS site.



Photo 3: Ruderal habitat at the City site.



Photo 4: Ruderal habitat at the City site.



Photo 5: Ruderal habitat at the NAWS site with ornamental trees.



Photo 6: Agricultural land at the City site utilized for disposing treated wastewater.



Photo 7: Wastewater pond at the City site.



Photo 8: Wastewater pond at the NAWS site.



Photo 9: Ephemeral drainage crossing the Alternative 2 pipeline alignment and surrounding desert scrub habitat.



Photo 10: Ephemeral drainage crossing the four-mile pipeline alignment crossing beneath Pilot Plant Road. Desert scrub habitat along the pipeline alignment is visible in background.



Photo 11: Ruderal habitat along the four-mile pipeline alignment.