BAGDAD CHASE MINES

SAN BERNARDINO COUNTY, CALIFORNIA

Biological Resources Report

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June 2021

BAGDAD CHASE MINE

SAN BERNARDINO COUNTY, CALIFORNIA

Biological Resources Report

Results of a Habitat Assessment, Desert Tortoise Presence/Absence Survey and
Focused Special-Status Plant Survey

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Travis J. McGill
Director/Biologist

Thomas J. McGill, Ph.D.
Managing Director

June 2021

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EXHIBITS

APPENDIX

Section 1 Introduction

This report contains the findings of ELMT Consulting's (ELMT) habitat assessment, desert tortoise presence/absence survey and focused special-status plant survey for the Bagdad Chase Mine (Project) located south of the community of Ludlow and north of the City of Twentynine Palms in unincorporated San Bernardino County, California. ELMT biologists Thomas J. McGill, Ph.D., Travis J. McGill, and Jacob H. Lloyd Davies conducted field surveys and evaluated the condition of the habitat within the existing Bagdad Chase Mines patented mine claims on October 19 and 29, 2020, February 8, 2021, and May 14, 2021.

The habitat assessment was conducted to characterize existing site conditions and to assess the probability of occurrence of special-status[1] plant and wildlife species that could pose a constraint to project implementation. This report provides an in-depth assessment of the suitability of the on-site habitat to support special-status wildlife species, in particular desert tortoise (*Gopherus agassizii*) and burrowing owl (*Athene cunicularia*) as well as special-status plant identified by the California Natural Diversity Data Base (CNDDB), the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, as well as other electronic databases to identify species with the potential for occurring in the vicinity of the Project site. Additionally, a desert tortoise presence/absence survey and special-status plant survey were conducted in conjunction with the habitat assessment to document the presence/absence of desert tortoise and special-status plants within the boundaries of the survey area.

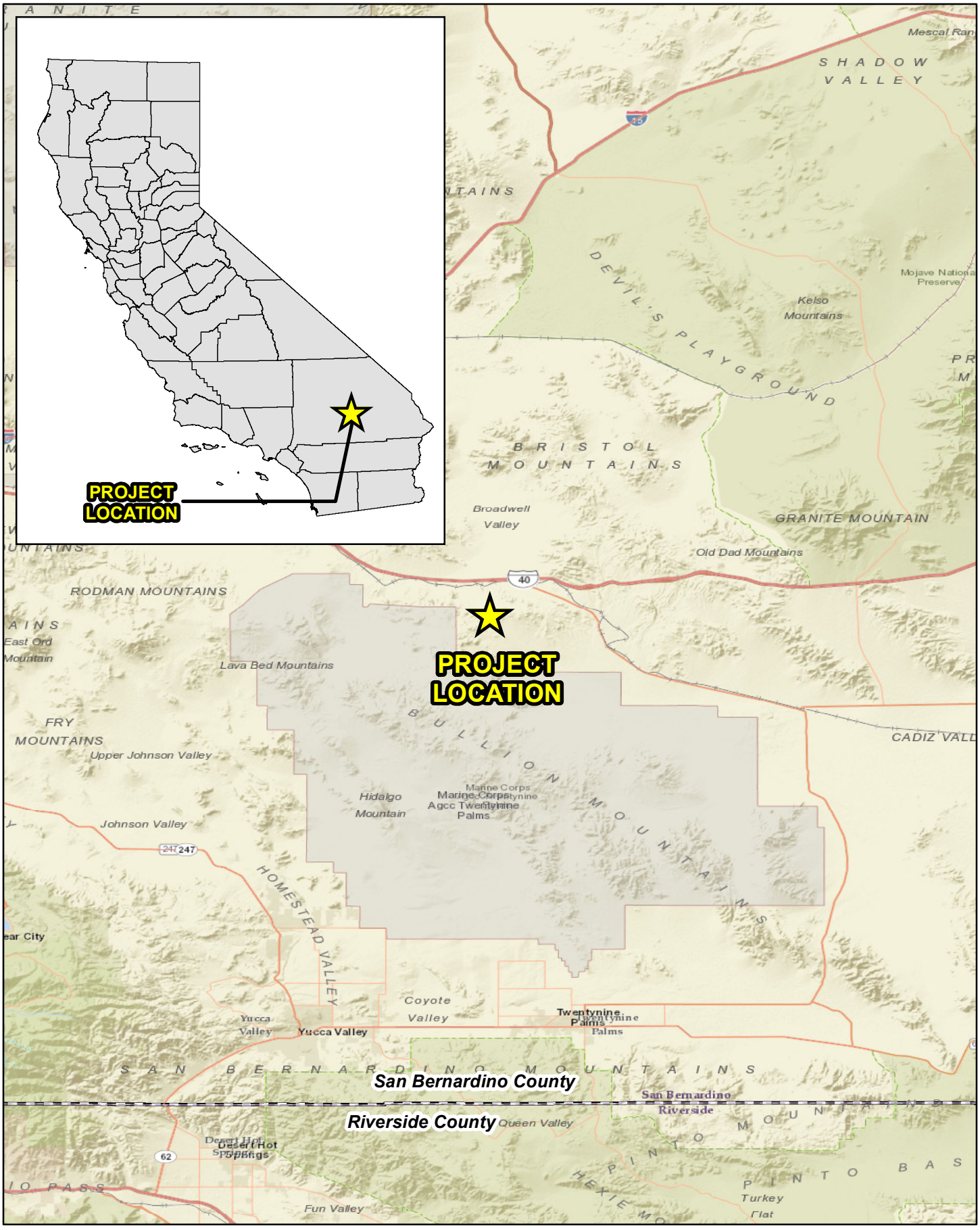
1.1 PROJECT LOCATION

The Project site is generally located south of Interstate 40, northeast of State Route 247, north of State Route 62, and southwest of National Trails Highway in unincorporated San Bernardino County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Ludlow and Morgans Well quadrangles of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Section 8 of Township 6 North, Range 8 East (Exhibit 2, *Site Vicinity*). Specifically, the project site is located south of the unincorporated community of Ludlow at the southern terminus of Bagdad Chase Road at the existing Bagdad Chase Mine facility within Assessor Parcel Number (APN) 551-181-03, -04, -05, -06, -07, -08, -09, -10, -11, -12, and -18 (Exhibit 3, *Project Site*).

1.2 PROJECT DESCRIPTION

The project proposes reopening the Bagdad Chase Mine.

[1] As used in this report, "special-status" refers to plant and wildlife species that are federally or State listed, proposed, or candidates; plant species that have been designated a California Native Plant Society (CNPS) Rare Plant Rank; and wildlife species that are designated by the California Department of Fish and Wildlife (CDFW) as fully protected, species of special concern, or watch list species.



ELMT CONSULTING

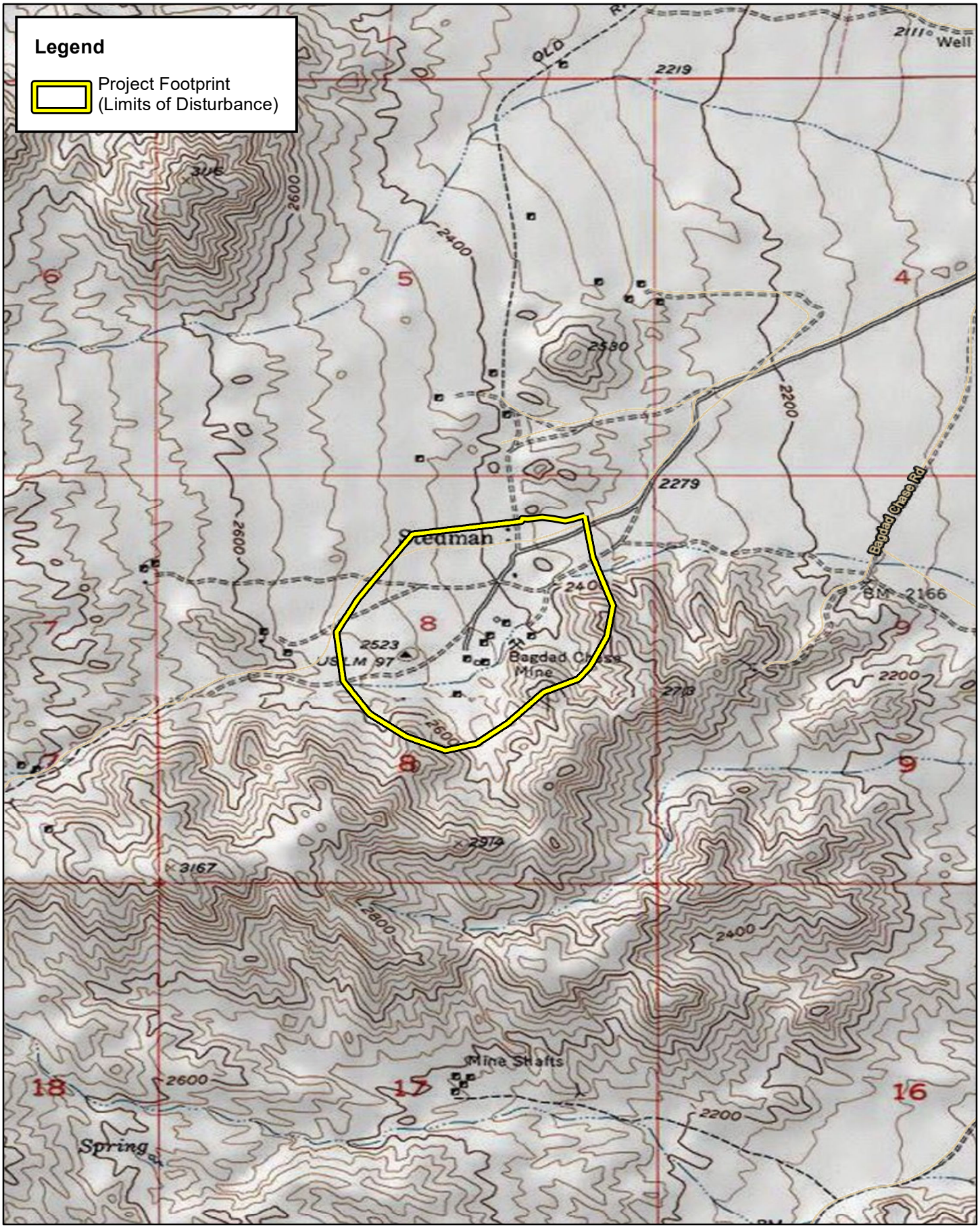
0 5 10 20 Miles

Source: World Street Map, San Bernardino County

BAGDAD CHASE MINE
BIOLOGICAL RESOURCES REPORT

Regional Vicinity

Exhibit 1



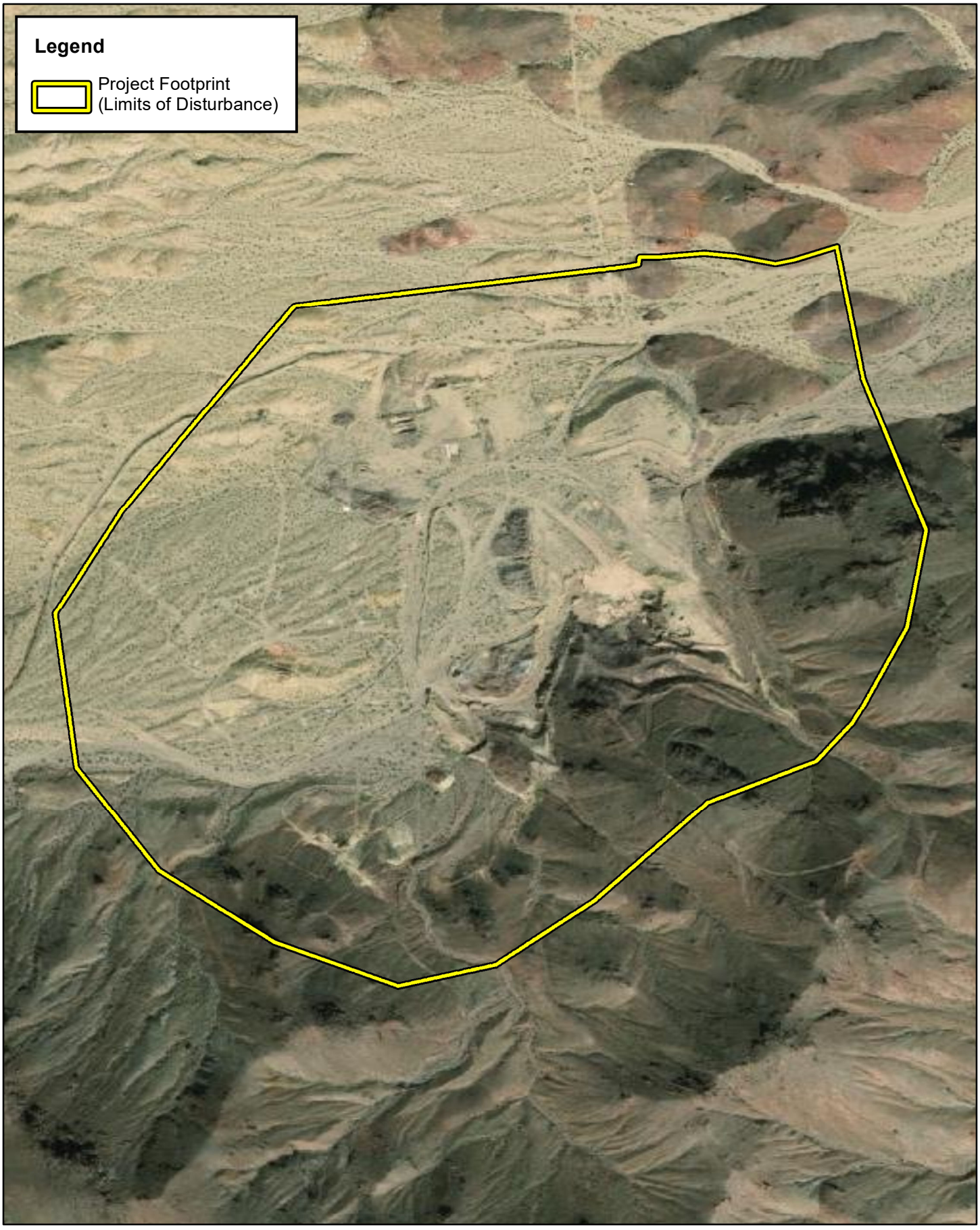
0 1,250 2,500 5,000 Feet

Source: USA Topographic Map, San Bernardino County

BAGDAD CHASE MINE
BIOLOGICAL RESOURCES REPORT

Site Vicinity

Exhibit 2



ELMT CONSULTING

0 250 500 1,000
Feet

Source: ESRI Aerial Imagery, San Bernardino County

BAGDAD CHASE MINE
BIOLOGICAL RESOURCES REPORT

Project Site

Exhibit 3

Section 2 Methodology

A literature review and records search were conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition to the literature review, a general habitat assessment or field investigation of the project site was conducted. The field investigation was conducted to document existing conditions within the project site and assess the potential for special-status biological resources to occur.

2.1 LITERATURE REVIEW

Prior to conducting the field investigation, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project site were determined through a query of the CDFW QuickView Tool in the Biogeographic Information and Observation System (BIOS), CNDDB Rarefind 5, the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

All available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site were reviewed to understand existing site conditions and note the extent of any disturbances that have occurred on the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources, as well as the following resources:

- Google Earth Pro historic aerial imagery (1985-2018);
- San Bernardino County General Plan;
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey[2];
- USFWS Critical Habitat designations for Threatened and Endangered Species; and
- USFWS National Wetlands Inventory (NWI).

The literature review provided a baseline from which to inventory the biological resources potentially occurring on the subject property. The CNDDB database was used, in conjunction with ArcGIS software, to locate the nearest recorded occurrences of special-status species and determine the distance from the project site.

[2] A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.

2.2 FIELD INVESTIGATION

ELMT biologists Thomas J. McGill Ph.D., Travis J. McGill, and Jacob H. Lloyd Davies evaluated the extent and conditions of the plant communities found within the existing Bagdad Chase Mines patented mine claims and surrounding areas (survey area) on October 19 and 29, 2020, February 8, 2021, and May 14, 2021. Plant communities identified on aerial photographs during the literature review were verified in the field by walking meandering transects through the on-site plant communities and along boundaries between plant communities. The plant communities were evaluated for their potential to support special-status plant and wildlife species. In addition, field staff identified any natural corridors and linkages that may support the movement of wildlife through the area. Special attention was given to special-status habitats and/or undeveloped areas, which have higher potentials to support special-status plant and wildlife species.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features were noted.

2.3 SOIL SERIES ASSESSMENT

On-site and adjoining soils were researched prior to the field survey using the USDA NRCS Soil Survey for San Bernardino County. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes that the project site has undergone.

2.4 PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with Sawyer, Keeler-Wolf and Evens (2009), CDFW (2010) and Holland (1986), delineated on an aerial photograph, and then digitized into ArcGIS. The ArcGIS application was used to compute the area of each plant community in acres.

2.5 PLANTS

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less familiar plants were photographed in the field and identified in the laboratory using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

2.6 WILDLIFE

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of wildlife species during

the survey included The Sibley Field Guide to the Birds of Western North America (Sibley 2003), A Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

2.7 JURISDICTIONAL DRAINAGES AND WETLANDS

Aerial photography was reviewed prior to conducting a field investigation in order to locate and inspect any potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the Corps, Regional Board, and/or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory jurisdiction. In addition, ELMT reviewed jurisdictional waters information through examining historical aerial photographs to gain an understanding of the impact of land-use on natural drainage patterns in the area. The USFWS NWI and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas have been documented on or within the vicinity of the Project site.

2.8 DESERT TORTOISE PRESENCE/ABSENCE SURVEY

The potential presence of Mojave desert tortoise requires that biologists conduct focused surveys/pedestrian transects covering the project's action area in order to determine the presence or absence of desert tortoise within the action area (U.S. Fish and Wildlife Service [USFWS], 2018). The action area is defined as all areas to be directly or indirectly affected by the project (50 CFR §402.02). For this project, the action area includes the limits of disturbance (existing Bagdad Chase Mines patented mine claims and all areas that have the potential to be indirectly impacted by the proposed project). Site characteristics including topography, presence of suitable habitat, and human disturbance were utilized to determine the lateral extent of the action area beyond the project footprint. For consistency, the action area is hereinafter referred to as the survey area. Since the development footprint is less than 200 hectares (500 acres) in size, the Small Project Field Survey Protocol was used to determine the presence/absence of desert tortoise.

Transects were generally oriented east to west across the survey area and were spaced at 10-meter (33 feet) intervals throughout all suitable habitat to provide 100 percent visual coverage and increase the likelihood of locating desert tortoise and/or sign. All transects were walked at a pace that allowed for careful/detailed observation along transect routes and the immediate vicinity.

ELMT biologists conducted a 100 percent coverage survey on October 29, 2020 and May 14, 2021 which falls within the desert tortoise's most active periods (April through May and September through October). Weather conditions during the survey included clear skies, calm wind conditions, and temperatures ranging from 54 to 80 degrees Fahrenheit. If present, any live desert tortoises and/or sign (burrows, scat, carapace, drinking depressions) were recorded on USFWS pre-project survey field data sheets and marked using a Garmin GPSMap 64 Global Positioning System (GPS).

All burrows observed were thoroughly inspected for the presence of desert tortoise or evidence of recent use using non-intrusive methods (i.e., mirror, digital camera). Burrow characteristics including class, shape,

orientation, size, and evidence of deterioration were recorded on field data sheets, when observed. In addition, each burrow, when observed, was photographed and given a class rating to describe the overall status and condition of the burrow.

Table 1: Burrow Classification

Condition Class[1]	Description
1	Currently active, with desert tortoise or recent desert tortoise sign
2	Good condition, definitely desert tortoise; no evidence of recent use
3	Deteriorated condition; this includes collapsed burrows; definitely desert tortoise
4	Good condition; possibly desert tortoise
5	Deteriorated condition; this includes collapsed burrows; possibly desert tortoise
[1] Condition class rating system as set forth by USFWS (2010)	

2.9 SPECIAL-STATUS PLANT SURVEY

Prior to the commencement of any activities that may modify natural vegetation CDFW deems it necessary to conduct botanical surveys for special-status plant species based on the suitability of the habitat. CDFW recognized that it is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

The 2018 protocol states that surveys need to be conducted using systematic field techniques in all habitats of a site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa observed. The level of effort should be sufficient to provide comprehensive reporting.

Field surveys were conducted in a manner that maximizes the likelihood of locating special-status plant species that may be present. Every plant taxon identified on site was identified to the taxonomic level necessary to determine its rarity and listing status. Surveys were conducted at the time of year when species are both evident and identifiable. Site visits were spaced throughout the growing season to accurately determine what plant species exist on-site. Multiple surveys were conducted to capture the floristic diversity at a level necessary to determine if special status plants are present. The timing and number of surveys was determined by geographic location, the natural communities present, and the weather patterns.

All areas that may be directly and indirectly impacted by the proposed project were extensively surveyed on foot. Linear transects were walked throughout the project site and spaced at 10-meter intervals, where accessible, to ensure maximum visual coverage and increase the likelihood of detecting special-status plant species known to occur within the general vicinity of the project site. All plant species observed during the

surveys were identified by visual characteristics and morphology in the field and recorded in a field notebook/iPad. Unusual and less familiar plants were photographed on-site and identified in the laboratory using taxonomical guides. A handheld geographic positioning systems (GPS) device and standard field data sheets were used to record all populations of special-status plant species, if observed.

Based on the plant species known to occur within the general vicinity and the suitability of the on-site plant communities to support those plant species, three site visits were conducted on October 19 and 29, 2020, February 8, 2021, and May 14, 2021. These visits were spaced throughout the growing season to capture the appropriate phenotypic stage for proper identification of all sensitive plant species determined to have a potential to occur on the project site.

Section 3 Existing Conditions

3.1 LOCAL CLIMATE

The Mojave Desert is found at elevations of 2,000 to 5,000 feet above mean sea level and is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Climatological data obtained for the nearby City of Twentynine Palms indicates the annual precipitation averages 4.46 inches per year. Almost all of the precipitation in the form of rain occurs in the months between July and April, with hardly any occurring between the months of May and June. The wettest month is August, with a monthly average total precipitation of 0.80 inches. The average minimum and maximum temperatures for the region are 39.7 and 102.7 degrees Fahrenheit (°F) respectively with December and January (monthly average 50.5° F) being the coldest months and July being the hottest (monthly average 89.4° F). Temperatures during the site visit were in the mid-70 to mid-80s (° F).

3.2 TOPOGRAPHY AND SOILS

On-site surface elevation ranges from approximately 1,780 to 2,550 feet above mean sea level. Topography on-site generally consists of flat desert dry wash areas, rolling hills and several steep sided hilltops and ridgelines located across the survey area. There are several portions of the project site that have previously been mined resulting in further areas of topographic relief. Based on the NRCS USDA Web Soil Survey, the project site itself is not mapped and the greater area in the vicinity of the site is underlain by Rositas-Carrizo and Upspring-Sparkhule-Rock outcrop complexes. Soils within the southern portion of the survey area around the existing mine have been mechanically disturbed and compacted from mining activities and recreational off-highway vehicle activities. The portions of the survey area that do not occur adjacent to mining areas are relatively undisturbed.

3.3 SURROUNDING LAND USES

The survey area is located in a remote, undeveloped area south of the unincorporated community of Ludlow along the eastern reaches of the Bullion Mountains. The eastern reaches of the Bullion Mountains and areas to the northeast have historically supported mining operations for over a century and remnant buildings and abandoned towns dot the landscape. As such, the area surrounding the site to the north and east supports sporadic remnant foundations, stockpiles, and mining pits. In addition, the Twentynine Palms Marine Corps Base Training Grounds is located to west of the site within the Bullion Mountains. No structures other than those associated with historic mining activities were detected within 4 miles of the site.

Section 4 Discussion

4.1 SITE CONDITIONS

The survey area primarily supports undeveloped desert areas, with some disturbed land from previous mining activities. The project site is broken up into two areas, the southern portion which is where the majority of the existing mining activities were previously completed. Refer to Appendix A, *Site Photographs*.

4.2 VEGETATION

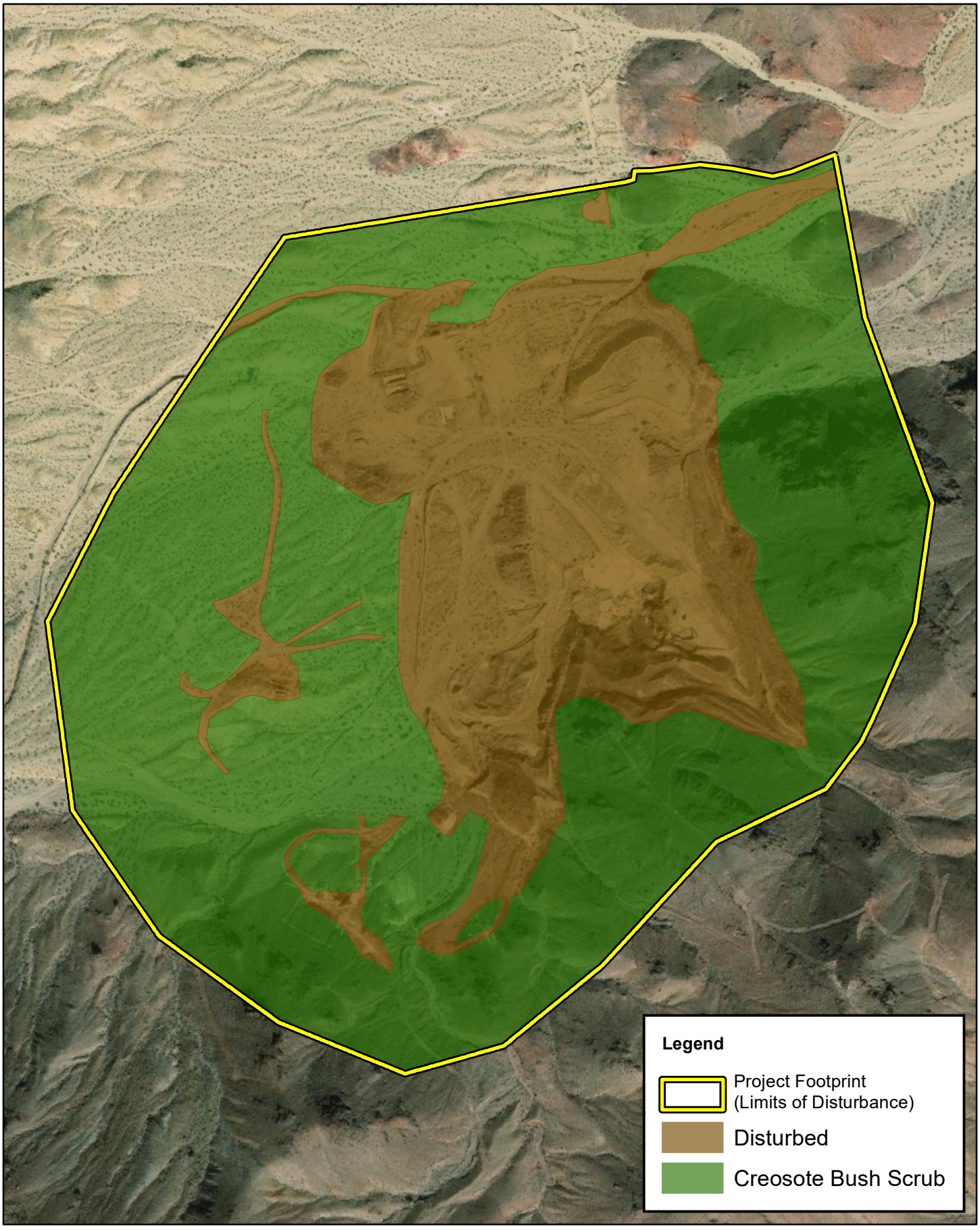
During the field investigation one (1) plant community was observed within the boundary of the project site: creosote bush scrub (refer to Exhibit 4, *Vegetation*). In addition, one (1) land cove type, classified as disturbed, was observed onsite. The vegetation community and land cover type are described in further detail below.

4.2.1 Creosote Bush Scrub

The creosote bush scrub plant community occurs throughout the survey area, outside of the areas that have been subject to historic mining activities. This plant community is dominated by creosote (*Larrea tridentata*). Common plant species observed in this plant community include brittlebush (*Encelia farinosa*), desert trumpet (*Eriogonum inflatum*), ladder buckwheat (*Eriogonum exaltatum*), cheesebrush (*Ambrosia salsola*), burrobrush (*Ambrosia dumosa*), silver cholla (*Cylindropuntia echinocarpa*), pencil cholla (*Cylindropuntia ramosissima*), Mediterranean grass (*Schismus* sp.), cryptantha (*Cryptantha* sp.), desert tea (*Ephedra californica*), catclaw (*Senegalia greggii*), Mojave spineflower (*Chorizanthe spinosa*), Alverson's foxtail cactus (*Coryphantha alversonii*), ajamete (*Asclepias subulata*), chia (*Salvia columbariae*), sweetbush (*Bebbia juncea*), barrel cactus (*Ferocactus cylindraceus*), beavertail (*Opuntia basilaris*), wire lettuce (*Stephanomeria* sp.), brittle spineflower (*Chorizanthe brevicornu*), desert mistletoe (*Phoradendron californicum*), Mojave rabbitbrush (*Ericameria paniculata*), coyote melon (*Cucurbita palmata*), whitemargin beardtongue (*Penstemon albomarginatus*), and smoke tree (*Psorothamnus spinosus*).

4.2.2 Disturbed

Disturbed areas are generally areas that have been subject to a high level of human disturbances from historic mining activities and no longer support a native plant community. These areas are unpaved and are entirely devoid of vegetation or support ruderal/weedy plant species and are primarily found adjacent to remnant mining areas. Disturbed areas include existing mining pits, dirt access roads, and spoil piles. Some of the disturbed areas have partially revegetated with early/pioneer species from creosote bush scrub plant community. Plant species occurring within these disturbed areas include desert trumpet, creosote, desert tea, Mediterranean grass, chia, and wire lettuce.



ELMT CONSULTING

0 125 250 500 Feet

Source: ESRI Aerial Imagery, San Bernardino County

BAGDAD CHASE MINE
BIOLOGICAL RESOURCES REPORT

Vegetation

Exhibit 4

4.3 WILDLIFE

Plant communities provide foraging habitat, nesting and denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species that were observed during the field survey or that are expected to occur within the project site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather condition in which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation.

4.3.1 Fish

No fish or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) with frequent sources of water that would provide suitable habitat for fish were observed on or immediately adjacent to the survey area. Therefore, no fish are expected to occur and are presumed absent from the project site.

4.3.2 Amphibians

No amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibian species were observed on or immediately adjacent to the survey area. Therefore, no amphibians are expected to occur on the project site and are presumed absent.

4.3.3 Reptiles

The creosote bush scrub plant community provides suitable foraging and nesting habitat for a variety of reptilian species adapted to conditions within the Mojave Desert. Reptilian species observed during the field investigation included western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), common side-blotched lizard (*Uta stansburiana elegans*), desert tortoise (*Gopherus agassizii*), and common chuckwalla (*Sauromatus ater*). Additional reptilian species that could be expected to occur on-site include, horned lizard (*Phrynosoma platyrhinos calidiarum*), Great Basin collard lizard (*Crotaphytus bicinctores*), Great Basin whiptail (*Aspidoscelis tigris tigris*), southwestern speckled rattlesnake (*Crotalus mitchellii pyrrhus*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

4.3.4 Birds

The creosote bush scrub plant community provides suitable foraging and nesting habitat for a variety of resident and migrant bird species adapted to conditions within the Mojave Desert. Avian species observed during the field investigation include American raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), and house finch (*Haemorhous mexicanus*). Common avian species expected to occur on-site include lesser goldfinch (*Spinus psaltria*), American crow (*Corvus brachyrhynchos*), cactus wren (*Campylorhynchus brunneicapillus*), rock wren (*Salpinctes obsoletus*), and Say's phoebe (*Sayornis saya*).

4.3.5 Mammals

The creosote bush scrub plant community provides suitable foraging and nesting habitat for a variety of mammalian species adapted to conditions within the Mojave Desert. Most mammal species are nocturnal

and are difficult to observe during a diurnal field visit. Mammalian species observed or detected during the field investigation were black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), kangaroo rat (*Dipodomys* sp.), and desert woodrat (*Neotoma lepida*). Additional common mammalian species that have potential to occur on-site include desert cottontail (*Sylvilagus audubonii*) and bat species (*Myotis*, *Lasiurus*, and *Antrozous* sp.). The southern portion of the site supports rock faces and steep cliffs that provide potential roosting habitat for local bat species.

4.4 NESTING BIRDS

No active nests or nesting behaviors were observed during the field investigation. The creosote bush scrub plant community provides suitable foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that have adapted to conditions in the Mojave Desert. A pre-construction nesting bird clearance survey shall be conducted within three (3) days prior to ground disturbance to ensure no nesting birds will be impacted from project implementaiton.

4.5 WILDLIFE CORRIDORS AND LINKAGES

Habitat linkages provide links between larger undeveloped habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

According to the San Bernardino County General Plan, the project site has not been identified as occurring within a Wildlife Corridor or Linkage. Although partially constrained by existing mining facilities, the open and natural habitats on and surrounding the project site allow for local wildlife to move from the project site into the undeveloped areas surrounding the project site in search of food, shelter, or nesting habitat. As designated by the San Bernardino County General Plan Open Space Element, the nearest major open space documented within the vicinity of the project site occurs approximately 5.1 miles north of the site, beyond Interstate 40.

The project site is separated from this identified regional wildlife corridors and linkages by existing mining pits and roadways, and undeveloped land; however, there are no riparian corridors or creeks connecting the project site to these areas. The undeveloped land in the immediate vicinity of the project site provides local wildlife movement opportunities for wildlife species moving through the immediate area. The project site does not function as a major wildlife movement corridor or linkage. As such, implementation of the proposed project is not expected to have a significant impact to wildlife movement opportunities or prevent local wildlife movement through the area since there is ample habitat adjacent to the project site to support wildlife movement opportunities.

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4.6 STATE AND FEDERAL JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge and/or fill materials into "waters of the United States" pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated plant communities pursuant to Section 1602 of the California Fish and Game Code.

The USFWS NWI and the USGS National Hydrography Dataset were reviewed to determine if any blueline streams or riverine resources have been documented within or immediate surrounding the project site. Based on this review, several riverine resources were identified within and immediately adjacent to the survey area. These features are ephemeral features that follows on-site topography. Surface flows within these features are only provided by direct precipitation during storm events. No surface water was observed during the field investigation.

Several unnamed ephemeral drainage features were observed within the boundaries of the project site during the field delineation. All of the onsite drainage features generally flow in a west to east direction across the project site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation. All of the onsite drainage features, after flowing offsite, eventually infiltrate into dry lakebeds. As a result, the onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States and will not be considered jurisdictional by the Corps. However, the onsite drainage will fall under the regulatory authority of the Regional Board as waters of the State, and CDFW as jurisdictional streambed.

Any impacts to on-site jurisdictional areas will likely require a Regional Board Report of Waste Discharge permit and CDFW Section 1602 Lake or Streambed Alteration Agreement prior to project implementation.

4.7 SPECIAL-STATUS BIOLOGICAL RESOURCES

The CNDDB Rarefind 5, CNDDB Quickview Tool in BIOS and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Ash Hill, Lavic Lake, Lavic SE, Ludlow, Ludlow SE, and Morgans Well USGS 7.5-minute quadrangles. These six (6) quadrangles were used due to the proximity of the project site to quadrangle boundaries and regional topography. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified seven (7) special-status plant species and ten (10) special-status wildlife species as having the potential to occur within the Ash Hill, Lavic Lake, Lavic SE, Ludlow, Ludlow SE, and Morgans Well quadrangles. No special-status plant communities were identified within these quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known

distributions. Species determined to have the potential to occur within the general vicinity are presented in *Table B-1: Potentially Occurring Special-Status Biological Resources,* provide in Appendix B. Refer to Table B-1 for a determination regarding the potential occurrence of special-status plant and wildlife species within the project site.

4.7.1 Special-Status Plants

According to the CNDDB and CNPS, seven (7) special-status plant species have been recorded in Ash Hill, Lavic Lake, Lavic SE, Ludlow, Ludlow SE, and Morgans Well quadrangles (refer to Appendix B). Alverson's foxtail cactus was the only special-status plant species observed onsite. Based on habitat requirements for the identified special-status species, and known distributions, it was determined that the support the creosote bush scrub plant community onsite has a moderate potential to support Emory's crucifixion thorn (*Castela emoryi*), Torrey's box-thorn (*Lycium torreyi*), and white-margined beartongue (*Penstemon albomarginatus*). Further, it was determined that the project site does not have potential to support any of the other special-status species documented as occurring within the vicinity of the project site.

None of the aforementioned special-status plant species are federally or State listed as endangered or threatened and have only been listed by the CNPS as Rare Plant Rank species. These species are not regulated under the federal or state Endangered Species Acts. In an effort to increase coverage for unlisted but regionally sensitive plants under the California Environmental Quality Act (CEQA), the CNPS began publishing sensitivity rankings for special-status plant species. These species, therefore, do not rise to the level of a species of concern under CEQA. Project impacts to the aforementioned species, if found, would therefore be less than significant, and no mitigation is required.

4.7.2 Special-Status Wildlife

According to the CNDDB, ten (10) special-status wildlife species have been reported in the Ash Hill, Lavic Lake, Lavic SE, Ludlow, Ludlow SE, and Morgans Well quadrangles (refer to Appendix B). No special-status wildlife species were observed onsite during the surveys. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the proposed project site has a moderate potential to support desert tortoise and burrowing owl (*Athene cunicularia*), and a low potential to support golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), and loggerhead shrike (*Lanius ludovicianus*). Further it was determined that the project site does not provide suitable habitat for any of the other special-status wildlife species known to occur in the area since the project site.

The following provide a detailed assessment of the special-status wildlife species that were determined to have the potential to occur on the project site. The results of the desert tortoise presence/absence survey are provided in Section 4.8 below.

Burrowing Owl

Burrowing owl is currently designated as a CDFW California Species of Special Concern. It is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with level to gently-sloping areas characterized by open vegetation and

bare ground. Burrowing owls rarely dig their own burrows and are instead dependent upon the presence of burrowing mammals (i.e., ground squirrels, coyotes, and badgers) whose burrows are often used for roosting and nesting. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage as well as watch for predators. In California, the burrowing owl breeding season extends from the beginning of February through the end of August.

The creosote bush scrub plant community within and adjacent to the survey area is dominated by low-growing open vegetation that allows for line-of-sight observation favored by burrowing owl. Multiple large burrows that have the potential to provide suitable nesting habitat for burrowing owls were observed throughout the survey area. Despite a systematic search of all suitable burrows and open habitats with low-growing vegetation, no burrowing owls or sign (pellets, feathers, castings, or whitewash) was observed during the surveys. A pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction clearance survey, impacts to burrowing owl will be less than significant and no mitigation will be required.

Golden Eagle

The golden eagle, a CDFW Fully Protected and Watch List species,occupies nearly all habitats of the western U.S. and is listed as a fully protected species in California and has been designated by the CDFW as a watch list species. Within California, the golden eagle is a year-round resident and typically inhabits the mountainous and open terrain of the Mojave Desert. Preferred habitats include those areas with deeply cut canyons and open mountain slopes that are adjacent to a dependable food source and vast expanses of open areas for foraging. This species typically uses cliffs and large trees for nesting and tends to favor cliff ledges with overhangs that provide protection form the extreme temperature fluctuations of the Mojave Desert. Golden eagles breed from late January through August with peak activity taking place from February to mid-May.

The survey area generally consists of flat open terrain with steep mountains on the periphery. Golden eagle was not observed during the surveys. However, the creosote bush scrub plant community within and adjacent to the survey area is dominated by low-growing open vegetation and thus provides suitable foraging habitat. The mountains in the general vicinity have the potential to provide suitable nesting opportunities for golden eagles. A pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction clearance survey, impacts to golden eagle will be less than significant and no mitigation will be required.

Prairie Falcon

The prairie falcon, a CDFW Watch List species, is a year-round resident of the Mojave Desert and has been designated by the CDFW as a watch list species in California. This species is primarily associated with arid and semi-arid habitats including grasslands, savannahs, rangeland, agricultural fields, and open desert scrub areas. Preferred habitats include those areas of open terrain adjacent to vertical cliffs, canyons, rock outcrops, and a sufficient water source. Nests are usually established in a scrape on a sheltered ledge of a

cliff overlooking large, open desert scrub and grassland habitats. Prairie falcons will also utilize abandoned raven and eagle nests in the absence of preferred nesting locations. Prairie falcons breed from mid-February through mid-September with peak activity taking place between April and early August.

The survey area generally consists of flat open terrain with steep mountains on the periphery. Prairie falcon was not observed during the surveys. However, the creosote bush scrub plant community within and adjacent to the survey area is dominated by low-growing open vegetation and thus provides suitable foraging habitat. The mountains in the general vicinity have the potential to provide suitable nesting opportunities for prairie falcons. A pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction clearance survey, impacts to prairie falcons will be less than significant and no mitigation will be required.

Loggerhead Shrike

The loggerhead shrike, a CDFW Species of Special Concern, is a year-round resident of the Mojave Desert and is designated by the CDFW as a Species of Special Concern. This species typically occurs in open and semi-open habitats with scattered shrubs, bare ground, and low or sparse herbaceous cover but may also occur along the edges of denser habitats. The loggerhead shrike inhabits a wide variety of habitats including grasslands, agricultural fields, pastures, desert washes, Joshua tree woodland, and creosote bush scrub. These areas provide suitable hunting habitat and often contain an assortment of perches including trees, fences, posts, and utility lines required for spotting prey. This species typically breeds from March to May and builds its nest 2.5 to 4 feet above ground in thorny shrubs and trees that provide concealment and protection from predators.

Loggerhead shrike was not observed during the surveys. However, the creosote bush scrub plant community within and adjacent to the survey area is dominated by low-growing open vegetation and provides suitable foraging and nesting habitat. In addition, the survey area offers a wide variety of hunting perches often used by the loggerhead shrike. A pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction clearance survey, impacts to loggerhead shrike will be less than significant and no mitigation will be required.

4.8 DESERT TORTOISE PRESENCE/ABSENCE SURVEY RESULTS

Species Background

The Mojave population of the desert tortoise was listed as Threatened on April 2, 1990 and a recovery plan was published in June 1994 (revised May 2011) to describe a strategy for recovering the Mojave population of the desert tortoise including the identification of five recovery units, recommendations for a system of Desert Wildlife Management Areas (DWMAs) within the recovery units, and development and implementation of specific recovery actions, especially within DWMAs. The establishment of recovery units and DWMAs was intended to facilitate an ecosystem approach to land management and desert tortoise recovery. Based on the 2018 Revised Recovery Plan, the survey area is located within the Western Mojave Recovery Unit, but is not located within any designated DWMAs. Additionally, the survey area is not located within designated Critical Habitat for the desert tortoise and no desert tortoise have been recorded on the project site.

The Mojave population of the desert tortoise inhabits areas north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran Desert in California. Throughout the majority of the Mojave Desert, desert tortoises occur most commonly on gentle sloping soils characterized by an even mix of sand and gravel and sparsely vegetated low-growing vegetation where there is abundant inter-shrub space. Typical habitat for the Mojave desert tortoise has been characterized as creosote bush scrub below 5,500 feet in elevation with a high diversity of perennial and ephemeral plants. The dominant shrub commonly associated with desert tortoise habitat is creosote bush (*Larrea tridentata*); however, other shrubs including burrobush (*Ambrosia dumosa*), Mojave yucca (*Yucca schidigera*), cheesebush (*Ambrosia salsola*), and Mojave prickly-pear (*Opuntia mojavensis*) also provide suitable habitat. The desert tortoise spends 95 percent of its life underground and will opportunistically utilize burrows of various lengths, deep caves, rock and caliche crevices, or overhangs for cover. Therefore, a moderately friable soil is required to allow for burrow construction and ensure that burrows do not collapse.

Results

The undeveloped portions of the project site are dominated by creosote bush scrub plant communities that have the potential to provide suitable habitat for desert tortoise. During the initial survey, several potential desert tortoise burrows were observed. Due to the sign observed during the initial field investigation desert tortoise focused presence/absence surveys were conducted on October 29, 2020 and May 14, 2021

Despite a systematic search of the project site, no live tortoises or signs were observed on the project site during the presence/absence survey. The plant communities found on the project site and on-site topography provide suitable foraging and burrowing habitat for desert tortoises. Based on the results of the focused survey, desert tortoise is presumed absent from the project site. It should be noted that there are eight (8) known locations of desert tortoise in the area that have been relocated in the vicinity of the proposed project from the 29 Palms Military Base, located outside of the proposed project boundaries.

However, out of an abundance of caution, a pre-construction desert tortoise clearance surveys should be conducted prior to ground disturbing activities to ensure no desert tortoise occur within the limits of disturbance.

4.9 SPECIAL-STATUS PLANT FOCSUED SURVEY RESULTS

The special-status plant focused surveys focused on the presence/absence of Emory's crucifixion thorn, Torrey's box-thorn, and white-margined beartongue (refer to Appendix B). Based on the plant species known to occur within the general vicinity and the suitability of the on-site plant communities to support those plant species, three site visits were conducted on October 19 and 29, 2020, February 8, 2021, and May 14, 2021. These visits were spaced throughout the growing season to capture the appropriate phenotypic stage for proper identification of all sensitive plant species determined to have a potential to occur on the project site.

Alverson's foxtail cactus was the only special-status plant species observed onsite. Emory's crucifixion thorn, Torrey's box-thorn, and white-margined beartongue and other special-status plant species known to occur within the general vicinity of the project site were not detected during the surveys.

Alverson's foxtail cactus

Alverson's foxtail cactus is designated as a CNPS Rare Plant Rank 4.3 (a watch list of plants of limited distribution, not very threatened in California [low degree and immediacy of threat]) that is fairly common the Mojave Desert. Alverson's foxtail cactus is a stem succulent plant in the Coryphantha genus of the cactus family (Cactaceae) with black tipped spines and lavender flowers found in desert mountains of California.

This species is not regulated under the federal or state Endangered Species Acts. In an effort to increase coverage for unlisted but regionally sensitive plants under the CEQA, the California Native Plant Society began publishing sensitivity rankings for special-status plant species. CNPS Rare Plant Rank 4 plant species may be considered rare in California if they occur in less than two California counties or if they are of local concern. Alverson's foxtail cactus is found in at least three (3) counties throughout southern California. Therefore, impacts to this species does not rise to the level of a species of concern under CEQA and no mitigation would be required.

4.10 CRITICAL HABITAT

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS) regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If a there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The project site is not located within federally designated Critical Habitat. The closest Critical Habitat designation is located approximately 18.5 miles northwest of the site for desert tortoise. Therefore, no loss or adverse modification of federally designated Critical Habitat will occur from implementation of the proposed project.

Section 5 Conclusion and Recommendations

The project site is located in a remote, undeveloped area along the eastern reaches of the Bullion Mountains, south of the unincorporated community of Ludlow. Areas surrounding the site consist of vacant, undeveloped land with scattered historical mining pits to the north and east, and the Bullion Mountains and the Twentynine Palms Marine Corps Training Center to the south and west. The project site is relatively undeveloped except those areas that have been subject to historic mining activities. During the field investigation one plant community, creosote bush scrub, and one land cover type, disturbed, were observed onsite.

Special-Status Plant Species

One special-status plant species was observed on-site during the focused special-status plant surveys, Alverson's foxtail cactus. Emory's crucifixion thorn, Torrey's box-thorn, and white-margined beartongue and other special-status plant species known to occur within the general vicinity of the project site were not detected during the focused surveys. None of the aforementioned special-status plant species are federally or State listed as endangered or threatened. Since Alverson's foxtail cactus is not regulated under the federal or state Endangered Species Acts, and is only listed by the California Native Plant Society as a Rare Plant Rank 4 plant species impacts to this species does not rise to the level of a species of concern under CEQA and no mitigation would be required.

Special-Status Wildlife Species

No special-status wildlife species were observed on-site during the field surveys. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the proposed project site has a moderate potential to support desert tortoise burrowing owl, and a low potential to support golden eagle, prairie falcon and loggerhead shrike.

Burrowing Owl, Golden Eagle, Prairie Falcon, and Loggerhead Shrike

A pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction clearance survey, impacts to burrowing owl, golden eagle, prairie, falcon, and loggerhead shrike will be less than significant and no mitigation will be required.

BIO-1: Pre-Construction Nesting Bird Clearance Survey

All construction activities shall comply with the federal Migratory Bird Treaty Act of 1918 (MBTA) and California Fish and Game Code Sections 3503, 3511 and 3513. The MBTA governs the taking and killing of migratory birds, their eggs, parts, and nests and prohibits the take of any migratory bird, their eggs, parts, and nests. Compliance with the MBTA shall be accomplished by completing the following:

Construction activities involving vegetation removal shall be conducted between September 1 and January 31. If construction occurs inside the peak nesting season (between February 1 and August 31), a pre-construction survey by a qualified Biologist shall be conducted within 72 hours prior to construction activities to identify any active nesting locations. If the Biologist does not find any active nests, the construction work shall be allowed to proceed. The biologist conducting the

clearance survey shall document a negative survey with a report indicating that no impacts to active avian nests shall occur.

If the Biologist finds an active nest within the pre-construction survey area and determines that the nest may be impacted, the Biologist shall delineate an appropriate buffer zone around the nest. The size of the buffer shall be determined by the Biologist and shall be based on the nesting species, its sensitivity to disturbance, expected types of disturbance, and location in relation to the construction activities. These buffers are typically 300 feet from the nests of non-listed species and 500 feet from the nests of raptors and listed species. Any active nests observed during the survey shall be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a Biological Monitor shall take place within the buffer zone until the nest is vacated. The Biologist shall serve as a Construction Monitor when construction activities take place near active nest areas to ensure that no inadvertent impacts on these nests occur. Results of the pre-construction survey and any subsequent monitoring shall be provided to the Property Owner/Developer and the City. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds.

Desert Tortoise

Out of abundance of caution and to ensure desert tortoise remain absent from the project stie, a pre-construction clearance survey be conducted prior to ground disturbance.

BIO-2: Pre-Construction Desert Tortoise Clearance Survey

A pre-construction clearance survey be conducted thirty (30) days prior to ground disturbing activities in undeveloped areas to confirm the absence of desert tortoise within the boundaries of the survey area. Survey transects should be spaced at 10-meter (33-foot) intervals throughout the undeveloped portions of the project area to provide 100 percent visual coverage and increase the likelihood of locating desert tortoise and/or sign. All burrows, if present, will be thoroughly inspected for the presence of desert tortoise or evidence of recent use using non-intrusive methods (i.e., mirror, digital camera). Burrow characteristics including class, shape, orientation, size, and evidence of deterioration will be recorded on field data sheets.

Although not anticipated, if desert tortoise are found onsite during the pre-construction clearance survey, coordination will need to occur with the USFWS and CDFW to determine if avoidance and minimization measures can be implemented to avoid any direct or indirect impacts to desert tortoise, or if “Take” permits will need to be obtained prepared and approved by the USFWS and CDFW.

Riparian Habitat and Special-Status Natural Communities

No riparian habitat or special-status natural communities were observed onsite. However, several unnamed ephemeral drainage features were observed within the boundaries of the project site during the field delineation. Any impacts to on-site jurisdictional areas will likely require a Regional Board Report of Waste Discharge permit and CDFW Section 1602 Lake or Streambed Alteration Agreement prior to project implementation.

Wildlife Corridors

Since conditions on the site, after project implementation will allow wildlife movement across portions of the site and within adjoining large blocks of habitat, wildlife movement will not be significantly affected by the project, and no mitigation is warranted. Due to the lack of any identified impacts to wildlife movement, migratory corridors or linkages or native wildlife nurseries, no mitigation is required.

Local, Regional, and State Plans

The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan. Therefore, impacts to any local, regional, or state habitat conservation plans are not expected to occur from development of the proposed project, and mitigation is not required.

Section 6 References

California Department of Fish and Wildlife. 2010. List of Vegetation Alliances and Associations (Natural Communities List). Available online at http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency.

California Department of Fish and Wildlife. 2018. RareFind 5, California Natural Diversity Data Base, California. Data Base report on threatened, endangered, rare or otherwise sensitive species and communities for the Victorville and Helendale 7.5-minute USGS quadrangles.

California Native Plant Society. 2018. Inventory of Rare and Endangered Plants of California. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, California. Available at: http://www.cnps.org/inventory.

Desert Tortoise Council. 2013. Annual Surveying, Monitoring, and Handling Techniques Workshop. Presented by the Desert Tortoise Council, Ridgecrest, California.

eBird. 2018. Online at http://ebird.org/content/ebird/.

Google, Inc. 2013. Google Earth Pro version 7.1.2.2041, build date 10/7/2013. Historical aerial imagery from 1994 to 2018.

Guzy, Gary S. and R.M. Andersen. 2001. Memorandum on Supreme Court ruling concerning CWA jurisdiction over isolated waters. U.S. EPA and U.S. Army Corps of Engineers.

Hickman, J.C., ed. 2012. *The Jepson Manual: Higher Plants of California*. University of California Press.

Holland, R. F. 1986. Preliminary descriptions of the Terrestrial Natural Communities of California. Calif. Dept. of Fish and Game, Sacramento, CA.

Leitner, P. 2008. *Current Status of the Mohave Ground Squirrel*. California State University – Stanislaus, Endangered Species Recovery Program, Fresno, CA.

Leitner, P. 2015. *Current Status of the Mohave Ground Squirrel: A Five-Year Update (2008-2012)*. California State University, Stanislaus Endangered Species Recovery Program, Turlock, CA.

Logan, Mark Kotschwar. 2016. *Assessing Site Occupancy of Mohave Ground Squirrels: Implications for Conservation*. The Journal of Wildlife Management.

Merlin, P. 2003.A Field Guide to Desert Holes. Revised Edition. Arizona-Sonora Desert Museum. Tucson, Arizona.

Munz, P.A. 2004. Introduction to California Desert Wildflowers. Revised Edition. University of California Press, Berkeley and Los Angeles, California.

Philip Leitner. 2008. *Current Status of the Mohave Ground Squirrel*. California State University – Stanislaus Endangered Species Recovery Program.

Sibley, D.A. 2014. The Sibley Guide to Birds, Second Edition. Alfred A. Knopf, Inc., New York, New York.

Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians, Third Edition. Houghton Mifflin Company, New York, New York.

URS Corporation. 2007. County of San Bernardino 2007 General Plan (Amended April 24, 2014). San Bernardino, California

U.S. Bureau of Land Management. 2005. Final Environmental Impact Report and Statement for the West Mojave Plan, a Habitat Conservation Plan and California Desert Conservation Area Plan Amendment. Moreno Valley, California.

U.S. Climate Data. 2014. Victorville, California. Online at http://www.usclimatedata.com

U.S. Department of Agriculture, Natural Resources Conservation Service. 2016. *Web Soil Survey*. Online at http://websoilsurvey.nrcs.usda.gov/app/.

U.S. Fish and Wildlife Service. 1994. Determination of Critical Habitat for the Mojave Population of the Desert Tortoise; Final Rule. Federal Register 59:5820-5866.

U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, California.

U.S. Fish and Wildlife Service. 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise. Ventura, California.

U.S. Fish and Wildlife Service. 2010. Mojave Population of the Desert Tortoise (*Gopherus agassizii*) 5-Year Review: Summary and Evaluation. Desert Tortoise Recovery Office, Reno, Nevada.

U.S. Fish and Wildlife Service. 2011. Revised Recovery Plan for the Mojave Population of the Desert Tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

Victorville Industrial Minerals. 2006. Mining/Reclamation Plan (97M-01) – Oro Grande Silica Quarries.

West Mojave Plan. 2005. Final Environmental Impact Report and Statement for the West Mojave Plan. A Habitat Conservation Plan and California Desert Conservation Area Plan Amendment. Bureau of Land Management. VOL 1.

Appendix A Site Photographs

Photograph 1: Looking west across the northern portion of the project site.

Photograph 2: From the northern boundary of the project site looking south.

Photograph 3: From the northern portion of the project site looking east.

Photograph 4: From the northern portion of the project site looking south.

Photograph 5: From the middle of the western boundary of the project site looking east.

Photograph 6: From the middle of the western boundary of the project site looking northeast.

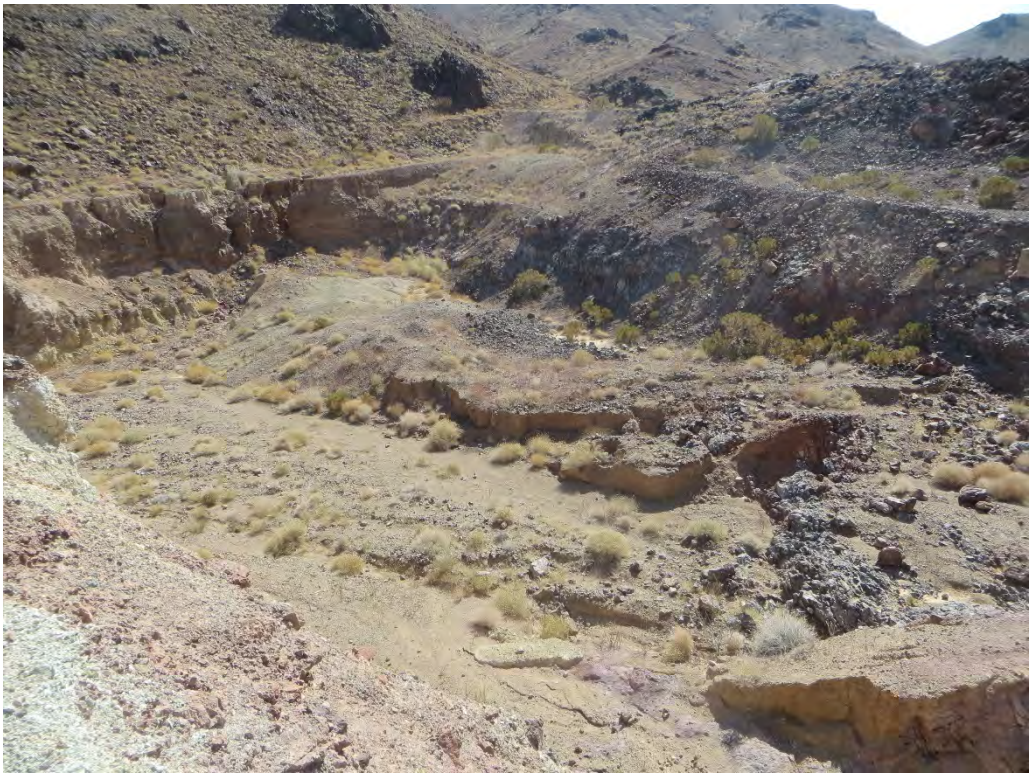
Photograph 7: Looking southwest along the southern portion of the western boundary of the project site.

Photograph 8: Looking south across the middle portion of the project site.

Photograph 9: Looking southeast across the middle portion of the project site.

Photograph 10: Looking northeast across the middle and northern portions of the project site.

Photograph 11: Looking northeast across a historic mining pit in the middle portion of the project site.



Photograph 12: Looking southeast across a historic mining pit.

Appendix B Potentially Occurring Special-Status Biological Resources

Table B-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
WILDLIFE SPECIES				
Aquila chrysaetos golden eagle	Fed: None CA: FP; WL	Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	No	**Low.** The open area in the northern portion of the site offers suitable foraging habitat. The Bullion Mountains to the south and east of the site provide suitable nesting opportunities.
Asio otus long-eared owl	Fed: None CA: SSC	Hunts mostly at night over grasslands and other open habitats. Nesting occurs in dense trees such as oaks and willows where it occupies stick nests of other species, particularly raptors or corvids.	No	**Presumed absent.** No suitable habitat is present within or adjacent to the project site.
Athene cunicularia burrowing owl	Fed: None CA: SSC	Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent upon fossorial mammals for burrows, most notably ground squirrels.	No	**Moderate.** The project site provides line-of-site opportunities favored by burrowing owls. In addition, the site provides suitable burrows (>4 inches in diameter). This species has been documented as occurring within 5 miles of the site. No burrowing owl were observed onsite during the surveys.
Falco mexicanus prairie falcon	Fed: None CA: WL	Commonly occur in arid and semiarid shrubland and grassland community types. Also occasionally found in open parklands within coniferous forests. During the breeding season, they are found commonly in foothills and mountains which provide cliffs and escarpments suitable for nest sites.	No	**Low.** The open area in the northern portion of the site offers suitable foraging habitat. The Bullion Mountains to the south and east of the site provide suitable nesting opportunities.
Gopherus agassizii desert tortoise	Fed: **THR** CA: **THR**	Widely distributed in the Mojave, Sonoran, and Colorado deserts from below sea level to 7,220 feet. Most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat except those on the most precipitous slopes.	No	**Moderate.** The flat portions of the project site provide suitable foraging habitat and burrowing opportunities.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Lanius ludovicianus loggerhead shrike	Fed: None CA: SSC	Often found in broken woodlands, shrublands, and other habitats. Prefers open country with scattered perches for hunting and fairly dense brush for nesting.	No	**Low.** Suitable habitat is present within the project site. This species has not been documented as occurring in the vicinity of the site.
Ovis canadensis nelsoni Peninsular bighorn sheep	Fed: None CA: FP	Preferred habitat is near mountainous terrain above the desert floor that is visually open, as well as steep and rocky. Most Mojave Desert mountain ranges satisfy these requirements well. Surface water is another element that is considered important to population health. Found mainly in the Peninsular Ranges.	No	**Presumed absent.** No suitable habitat is present within or adjacent to the project site.
Taxidea taxus American badger	Fed: None CA: SSC	Primarily occupy grasslands, parklands, farms, tallgrass and shortgrass prairies, meadows, shrub-steppe communities and other treeless areas with sandy loam soils where it can dig more easily for its prey. Occasionally found in open chaparral (with less than 50% plant cover) and riparian zones.	No	**Presumed absent.** No suitable habitat is present within or adjacent to the project site. No burrows were observed onsite during the surveys.
Toxostoma lecontei LeConte's thrasher	Fed: None CA: SSC	An uncommon to rare, local resident in southern California deserts from southern Mono Co. south to the Mexican border, and in western and southern San Joaquin Valley. Occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; also occurs in Joshua tree habitat with scattered shrubs.	No	**Presumed absent.** No suitable habitat is present within or adjacent to the project site.
Uma scoparia Mojave fringe-toed lizard	Fed: None CA: SSC	Restricted to sparsely vegetated, windblown sand in dunes, flats, riverbanks and washes. It requires fine, loose sand for burrowing and lays its eggs in subsurface burrows. Vegetation is typically scant and often consists of creosote bush scrub or other scrub.	No	**Presumed absent.** No suitable habitat is present within or adjacent to the project site.
PLANT SPECIES				
Castela emoryi Emory's crucifixion-thorn	Fed: None CA: None CNPS: 2B.2	Occurs in gravelly soil in Mojavean desert scrub, playas, and Sonoran desert scrub. Found in elevations ranging from 295 to 2,379 feet. Blooming period typically ranges from June to July but can begin as early as April and end as late as October.	No	**Moderate.** The project site provides marginal habitat. Was not observed onsite during the focused surveys.
Coryphantha alversonii Alverson's foxtail cactus	Fed: None CA: None CNPS: 4.3	Occurs usually in granitic sandy and rocky soils within Mojavean desert scrub and Sonoran desert scrub. Found at elevations ranging from 250 to 5,000 feet above msl. Blooming period is from April to June.	Yes	**Present.** This species was observed onsite during the focused surveys.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Funastrum utahense Utah vine milkweed	Fed: None CA: None CNPS: 4.2	Occurs in sandy or gravelly soil in Mojavean desert scrub and Sonoran desert scrub. Found at elevations ranging from 328 to 4,708 feet. Blooming period typically ranges from April to June but can begin as early as March and end as late as October.	No	**Presumed absent.** The project site provides suitable habitat; however, no known populations occur in the vicinity of the project site.
Johnstonella holoptera winged cryptantha	Fed: None CA: None CNPS: 4.3	Occurs in Mojavean desert scrub and Sonoran desert scrub. Found at elevations ranging from 328 to 5,544 feet. Blooming period ranges from March to April.	No	**Presumed absent.** The project site provides suitable habitat; however, no known populations occur in the vicinity of the project site.
Lycium torreyi Torrey's box-thorn	Fed: None CA: None CNPS: 4.2	Grows in sandy, rocky washes, streambanks, desert valleys within Mojavean desert scrub and Sonoran desert scrub habitats. Found at elevations ranging from 164 to 4,003 feet. Blooming period is from March to June.	No	**Moderate.** The project site provides marginal habitat. Was not observed onsite during the focused surveys.
Mentzelia tricuspis spiny-hair blazing star	Fed: None CA: None CNPS: 2B.1	Habitats include Mojavean desert scrub. Prefers sandy, gravelly, slopes and washes. Found at elevations ranging from 492 to 4,199 feet. Blooming period is from March to May.	No	**Presumed absent.** The project site provides suitable habitat; however, no known populations occur in the vicinity of the project site.
Penstemon albomarginatus White-margined beardtongue	Fed: None CA: None CNPS: 1B.1	Occurs in stabilized desert dunes and sandy soils within Mojavean desert scrub. Found at elevations ranging from 2,100 to 3,500 feet above msl. Blooming period is typically form March to May and can extend through June.	NO	**Moderate.** The project site provides marginal habitat. Was not observed onsite during the focused surveys.

U.S. Fish and Wildlife Service (Fed) - Federal
END- Federal Endangered
THR- Federal Threatened

California Department of Fish and Wildlife (CA) - California
END- California Endangered
THR- California Threatened
Candidate- Candidate for listing under the California Endangered Species Act
FP- California Fully Protected
SSC- Species of Special Concern
WL- Watch List

California Native Plant Society (CNPS)
California Rare Plant Rank
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants About Which More Information is Needed – A Review List
4 Plants of Limited Distribution – A Watch List

CNPS Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California
0.3- Not very threatened in California

Appendix C Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

Federally listed threatened and endangered species and their habitats are protected under provisions of the Federal Endangered Species Act (ESA). Section 9 of the ESA prohibits "take" of threatened or endangered species. "Take" under the ESA is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the United States Fish and Wildlife Service (USFWS) may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an ESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) makes it unlawful to pursue, capture, kill, possess, or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered "take." This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines "endangered" and "rare" species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, "endangered" species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in "take" of individuals (defined in CESA as; "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the

absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere

1B- Plants Rare, Threatened, or Endangered in California and Elsewhere

2A- Plants Presumed Extirpated in California, But More Common Elsewhere

2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3- Plants about Which More Information is Needed - A Review List

4- Plants of Limited Distribution - A Watch List

Threat Ranks

.1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

Local Regulations

San Bernardino County Development Code

Section 88.01.060 of the County of San Bernardino Development Code provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources. The provisions are intended to coincide with the Desert Native Plants Act (Food and Agricultural Code Section 8001 et seq.) and the State Department of Food and Agriculture to implement and enforce the Act.

Pursuant to Section 88.01.060 of the Development Code, the following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit:

1) The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:

   (A) *Dalea spinosa* (smoke tree)
   (B) All species of the genus *Prosopis* (mesquites)

2) All species of the family *Agavaceae* (century plants, nolinas, yuccas)

3) Creosote Rings, 10 feet or greater in diameter

4) All Joshua trees

5) Any part of any of the following species, whether living or dead:

   (A) *Olneya tesota* (desert ironwood)
   (B) All species of the genus *Prosopis* (mesquites)
   (C) All species of the genus *Cercidium* (palos verdes)

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

Since 1972, the Corps and EPA have jointly regulated the filling of waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, the placement of sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States."

In April of 2020, the Corps and the EPA provided a new definition for *waters of the United States* [Federal Register, Vol. 85, No. 77 (April 21, 2020)] which encompass:

- The territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries that contribute surface water flow to such waters;
- Certain lakes, ponds, and impoundments of jurisdictional waters; and
- Wetlands adjacent to other jurisdictional waters.

Additionally, the new definition identifies 12 categories of those waters and features that are excluded from the definition of ''waters of the United State, such as features that only contain water in direct response to rainfall (e.g., ephemeral features), groundwater, many ditches, prior converted cropland, and waste treatment systems. The final rule excludes from the definition of ''waters of the United States'' all waters or features not mentioned above. In addition to this general exclusion, the final rule specifically clarifies that waters of the United States do not include the following:

- Groundwater, including groundwater drained through subsurface drainage systems;
- Ephemeral features that flow only indirect response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;
- Diffuse stormwater runoff and directional sheet flow over upland;
- Ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations;
- Prior converted cropland;
- Artificially irrigated areas that would revert to upland if artificial irrigation ceases;
- Artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;

- Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
- Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;
- Groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and
- Waste treatment systems.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;
(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks

that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.