Appendix D

Biological Resources Technical Report

BIOLOGICAL TECHNICAL REPORT

FOR

CORDOVA COMPLEX AND QUARRY AT PAWNEE WAREHOUSE PROJECTS

LOCATED IN THE TOWN OF APPLE VALLEY, SAN BERNARDINO COUNTY, CALIFORNIA

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March 2024

INFORMATION SUMMARY

A.	**Report Date:**	March 21, 2024
B.	**Report Title:**	Biological Technical Report for the Cordova Complex and Quarry at Pawnee Warehouse Project
C.	**Project Site Location:**	Town of Apple Valley, San Bernardino County, California
D.	**Owner/Applicant:**	VVLIG Holdings LLC Josh Mahli 9040 Leslie Street, Suite 7 Richmond Hill, ON L4B-3M4 Phone: (647) 476-9227 Email: jmalhi@malhilaw.com
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TABLE OF CONTENTS

Page #

TABLES

EXHIBITS

APPENDICES

1.0 INTRODUCTION

1.1 Background and Scope of Work

This report provides the results of the general and focused biological surveys and jurisdictional delineation for the approximately 86.44-acre Cordova Complex Site, the approximately 75.66-acre Quarry at Pawnee Site, and offsite improvement areas located in the Town of Apple Valley, San Bernardino County, California. The Project includes two development sites that will be analyzed as one Project under the California Environmental Quality Act (CEQA). This report identifies and evaluates impacts to biological resources associated with the proposed Project in the context of the CEQA, State and Federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), and the California Fish and Game Code.

The scope of this report includes a discussion of existing conditions for the approximately 86.44-acre Cordova Complex Site and the approximately 75.66-acre Quarry at Pawnee Site, all methods employed regarding the general biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), jurisdictional delineations, and an analysis of impacts to biological and jurisdictional resources. Methods of the study include a review of relevant literature, field surveys, and a Geographic Information System based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the United States Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA requirements, including (1) general reconnaissance survey and vegetation mapping; (2) general biological surveys; (3) habitat assessments and focused surveys for special-status plant species; (4) habitat assessments and focused surveys for special-status wildlife species; (5) assessment for the presence of wildlife migration and colonial nursery sites; and (6) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act, State Water Quality Control Board pursuant to Section 401 of the Clean Water Act, and CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600–1616 of the California Fish and Game Code. Observations of all plant and wildlife species were recorded during the general biological surveys and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

1.2 Project Location

The Project includes two sites, Cordova Complex Site and Quarry at Pawnee Site, located in the Town of Apple Valley, San Bernardino County, California [Exhibit 1 – Regional Map]. The Cordova Complex Site is located east of Dachshund Avenue, south of Cordova Road, west of Navajo Road, and north of Johnson Road. The Quarry at Pawnee Site is located at the southwest corner of Flint Road and Quarry Road. Both sites are within Sections 15 and 16, Township 6 North, Range 3 West on the U.S. Geological Survey (USGS) topographic map Apple Valley North, California 7.5-minute topographic quadrangle map [Exhibit 2 – Vicinity Map]. Offsite road and utility improvements are located adjacent to the Project sites along the maintained

access roads. Adjacent land uses include undeveloped lands to the north, east, and west, and commercial development to the south of the Cordova Complex Site. The Cordova Complex Site consists of Assessor's Parcel Numbers (APNs) 0463-213-05, -06, -07, -08, -09, -16, -33, -34, -35, and -36, and the Quarry at Pawnee site consists of APNs 0463-214-06, -07, -08, and -09. Exhibit 3 provides an aerial image of the Project sites, including the Project boundary.

1.3 Project Description

The proposed Project includes the construction and operation of two concrete, tilt-up-construction, high-pile storage warehouse buildings, the Cordova Complex and Quarry at Pawnee. The proposed 1,559,952-square-foot Cordova Complex warehouse building and 1,462,342-square-foot Quarry at Pawnee warehouse building would each include construction of a warehouse building and associated improvements. Other on-site improvements at each site would include surface parking, including parking spaces for trucks, electric vehicles (EVs), and bicycles; and construction of detention basins for onsite drainage and stormwater/rain capture.

As the immediate vicinity of the Project is undeveloped, offsite roadway and utility improvements are proposed. Offsite roadway improvements would include construction on Dale Evans Parkway, Cordova Road, Navajo Road, Dachshund Avenue, Doberman Street and Flint Road. Offsite utility improvements would include 6,726 linear feet of new water infrastructure along Cordova Road, Dachshund Avenue, Doberman Street, and Johnson Road, and 3,918 linear feet of new wastewater infrastructure along Cordova Road, between the Cordova and Quarry at Pawnee sites, and along Navajo Road, directly east of the Cordova Complex site.

2.0 METHODOLOGY

In order to adequately identify biological resources in accordance with the requirements of CEQA, Glenn Lukos Associates (GLA) assembled biological data consisting of following main components:

- Performance of vegetation mapping;
- Performance of site-specific habitat assessments and biological surveys to evaluate the potential presence/absence of special-status species (or potentially suitable habitat for such species) to the satisfaction of CEQA and federal and state regulations;
- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and CDFW;
- Performance of focused surveys for desert tortoise (*Gopherus agassizii*);
- Performance of focused surveys for burrowing owl (*Athene cunicularia*);
- Performance of focused surveys for Mohave ground squirrel (*Xerospermophilus mohavensis*);
- Performance of a western Joshua tree (*Yucca brevifolia*) inventory; and
- Performance of focused surveys for special-status plants.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDB, CDFW 2023), CNPS 9th edition online inventory (CNPS 2023), Natural Resource Conservation Service (NRCS) soil data, other pertinent literature, and knowledge of the region. Site-specific general and focused surveys within the Project sites were conducted on foot in the proposed development areas as addressed in more detail below.

2.1 Summary of Surveys

GLA conducted biological studies to identify and analyze actual or potential impacts to biological resources associated with development of the Project sites. Observations of all plant and wildlife species were recorded during each of the above-mentioned survey efforts [Appendix A: Floral Compendium and Appendix B: Faunal Compendium]. Table 2-1 provides a summary list of survey dates, survey types, and personnel.

Table 2-1. Summary of Biological Survey for the Project Site

Survey Type	Survey Date	Biologist(s)
Cordova Complex Site		
General Biological Survey and Vegetation Mapping	6/17/2023 9/12/2023	CW, DS, JV
Delineation of Federal and State Jurisdictional Waters	4/11/2023 9/12/2023	LLG, JV
Focused Desert Tortoise Surveys	3/13/2023 3/14/2023	DS, JV
Focused Crotch's Bumble Bee Surveys	3/31/2023 4/14/2023 5/16/2023	JA, JF
Focused Burrowing Owl Surveys and Burrow Mapping Survey	3/13/2023 4/18/2023 5/9/2023 6/19/2023	DS, JV
Focused Mohave Ground Squirrel Surveys	4/13/2023 4/15/2023 to 4/19/2023 5/12/2023 to 5/16/2023 6/28/2023 to 7/2/2023	KLF, KF
Western Joshua Tree Inventory	10/19/2022 1/12/2024	ZW, JV
Focused Plant Surveys	3/5/2023 3/31/2023	JS
Habitat Assessments for Special-Status Animal Species	10/19/2022	ZW, JV
Quarry at Pawnee Site		
General Biological Survey and Vegetation Mapping	6/17/2023 9/12/2023	CW, DS, JV
Delineation of Federal and State Jurisdictional Waters	4/11/2023 9/12/2023	LLG, JV

Survey Type	Survey Date	Biologist(s)
Focused Desert Tortoise Surveys	3/13/2023 3/17/2023	DS, JV
Focused Crotch's Bumble Bee Surveys	3/31/2023 4/14/2023 5/16/2023	JA, JF
Focused Burrowing Owl Surveys and Burrow Mapping Survey	3/17/2023 4/20/2023 5/11/2023 6/21/2023	DS, JV
Focused Mohave Ground Squirrel Surveys	4/13/2023 4/15/2023 to 4/19/2023 5/12/2023 to 5/16/2023 6/28/2023 to 7/2/2023	KLF, KF
Western Joshua Tree Inventory	10/19/2022 1/12/2024	ZW, JV
Focused Plant Surveys	3/5/2023 3/31/2023	JS
Habitat Assessments For Special-Status Animal Species	10/19/2022	ZW, JV

ZW = Zackry West JS = Jillian Stephens CW = Christopher Waterston JA = Jeff Ahrens
JF = Jason Fitzgibbon LLG = Lesley Lokovic Gamber DS = David Smith JV = Joseph Vu
KLF= Karla Flores KF = Karl Fairchild

Individual plants and wildlife species are evaluated in this report based on their special-status. For the purpose of this report, plants were considered special-status based on one or more of the following criteria:

- Listing through the Federal and/or State ESA;
- Occurrence in the CNPS Inventory California Rare Plant Rank (CRPR) 1A/1B, 2A/2B, 3, or 4;
- Listing through the California Desert Native Plants Act and/or
- Occurrence in the CNDDB.

Wildlife species were considered special-status based on one or more of the following criteria:

- Listing through the Federal and/or State ESA; and
- Designation by the State as a Species of Special Concern (SSC) or Fully Protected (FP) species.

Vegetation communities and habitats were considered special-status based on one or more of the following criteria:

- Occurrence in the CNDDB inventory; and
- Riparian habitat.

Vegetation communities and habitats were considered "special-status" based on one or more of the following criteria:

- Global (G) and/or State (S) ranking of category 3 or less based on CDFW (see Section 3.2.2 below for further explanation); and
- Riparian habitat.

2.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project site, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Project site; (3) general field reconnaissance survey; (4) vegetation mapping according to Manual of California Vegetation Second Edition (Sawyer et al. 2009); and (5) habitat assessment and focused survey for special-status plants.

2.2.1 Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- CNPS, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v9.5, CNPS 2023); and
- CNDDB for the USGS 7.5′ Apple Valley North, Helendale, Turtle Valley, Stoddard Well, Victorville, Apple Valley South, Fairview, Hesperia, and Fifteenmile Valley quadrangles (CDFW 2023).

2.2.2 Vegetation Mapping

Vegetation communities within the Project sites were mapped according to the List of Vegetation Alliances and Associations (or Natural Communities List). The list is based on A Manual of California Vegetation, Second Edition (MCVII, Sawyer et al. 2008), which is the California expression of the National Vegetation Classification. Where necessary, deviations were made when areas did not fit into exact habitat descriptions. These vegetation communities were named based on the dominant plant species present. Plant communities were mapped in the field directly onto a 650-scale (1”=650’) aerial photograph. A vegetation map is included as Exhibit 4. Representative site photographs are included as Exhibit 5.

2.2.3 Special-Status Plant Species and Habitats Evaluated for the Project Site

A literature search was conducted to obtain a list of special status plants with the potential to occur within the Project sites. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (CNPS 2023).

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Project sites were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations

and land use; (2) prepare a detailed floristic compendium; (3) identify the potential for any special status plants that may occur within the Project site; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Project sites, if applicable.

Prior to conducting the focused special status plant surveys, reference sites were assessed to determine if these species were in bloom and/or otherwise identifiable in the field. Barstow woolly sunflower (*Eriophyllum mohavense*), beaver dam breadroot (*Pediomelum castoreum*), crowned muilla (*Muilla coronata*), Mojave fish-hook cactus (*Sclerocactus polyancistrus*), desert cymopterus (*Cymopterus deserticola*), and purple-nerve cymopterus (*Cymopterus multinervatus*) were observed in San Bernardino County and would have been detectable during the focused surveys. California androsace (*Androsace elongata* ssp. *acuta*) and Mojave spineflower (*Chorizanthe spinosa*) were observed in Kern County and white pygmy-poppy (*Canbya candida*) and ribbed cryptantha (*Johnstonella costata*) were observed in Riverside County and would have been detectable during the focused surveys. Species that can be identified with or without blooming flowers such as short-joint beavertail (*Opuntia basilaris* var. *brachyclada*) did not need reference checks.

2.2.4 Botanical Survey

GLA biologist Jillian Stephens visited the Cordova Complex Site and Quarry at Pawnee Site on March 5 and 31, 2023 to conduct general and focused plant surveys. The surveys were conducted in accordance with accepted botanical survey guidelines (Nelson, 1984, CNPS 2001, USFWS 2000, CDFW 2018). As applicable, the surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project sites. The surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field survey were identified and recorded following the above-referenced guidelines. A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al. (2012) and Munz (1974).

2.2.5 Joshua Tree Inventory

GLA biologists Zackry West and Joseph Vu performed an inventory of all western Joshua tree individuals at the Project sites, including dead trees, on October 19, 2022 and January 12, 2024. The inventory included a 50-foot census buffer from the Project boundaries. Each western Joshua tree was mapped and given a specific identifying number [Exhibit 7- Joshua Tree Survey Map]. Data was collected for each tree to comply with CDFW census requirements, including height, maturity status, flowering and fruiting data, and if the tree was dead or alive.

2.3 Wildlife Resources

Wildlife species were evaluated and detected during the biological surveys by sight, call, tracks, and scat. The biological surveys were conducted in such a manner as to allow inspection of the entirety of the Project sites by direct observation, including the use of binoculars. Observations

of physical evidence and direct sightings of wildlife were recorded in field notes during the visit. A complete list of wildlife species observed within each Project site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2016), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians 6th Edition (Collins and Taggart 2009) for amphibians and reptiles, and the American Ornithological Society Online Checklist (Chesser et al. 2022) for birds. The methodology (including any applicable survey protocols) utilized to conduct a general survey and habitat assessment for special-status animals are included below.

The majority of surveys conducted for the Project were conducted during the daytime, which would create a survey limitation for animals most active during dusk and nighttime, in particularly some species of snakes and reptiles. Focused small mammal trapping conducted for the Project detected some species active during the nighttime, including small and large mammals and some reptiles, but this would not include all nocturnal species.

2.3.1 General Survey

Birds

During the general biological and reconnaissance surveys within the Project sites, birds were detected incidentally by direct observation and/or by vocalizations, with identifications recorded in field notes.

Mammals

During the general biological and reconnaissance surveys within the Project sites, mammals were identified and detected incidentally by direct observations and/or by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

Reptiles and Amphibians

During the general biological and reconnaissance surveys within the Project sites, reptiles and amphibians were identified incidentally during the survey within each habitat type. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.3.2 Special-Status Animal Species Evaluated for the Project Site

A literature search was conducted in order to obtain a list of special-status wildlife species with the potential to occur within the Project sites. Species were evaluated based on two factors: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project sites, and 2) any other special-status animals that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project sites.

2.3.3 Habitat Assessment for Special-Status Animal Species

GLA biologists Zackry West and Joseph Vu conducted habitat assessments for special-status animal species on October 19, 2022 at each of the Project sites. An aerial photograph and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project sites.

2.3.4 Focused Surveys for Special-Status Animal Species

Burrowing Owl

GLA biologists David Smith and Joseph Vu conducted focused surveys for the burrowing owl for all suitable habitat areas within the Project sites. Surveys were conducted in accordance with survey guidelines described in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. The guidelines stipulate that four focused survey visits should be conducted between February 15 and July 15, with the first visit occurring between February 15 and April 15. The remaining three visits should be conducted three weeks apart from each other, with at least one visit occurring between June 15 and July 15. As recommended by the survey guidelines, the survey visits were conducted between morning civil twilight and 10:00 AM. Weather conditions during the surveys were conducive to a high level of bird activity.

Surveys were conducted by walking transects throughout areas of suitable habitat. Exhibit 6 – Burrowing Owl Survey Area Map identifies the burrowing owl survey area at the Project sites. Transects were spaced between seven meters to 20 meters apart (22 feet and 65 feet), adjusting for vegetation height and density, in order to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 100 meters (320 feet) along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. Table 2-2 below lists survey condition details. The results of the burrowing owl surveys are documented in Section 4.0.

Table 2-2. Summary of Burrowing Owl Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
Cordova Complex Site					
3/13/2023	DS, JV	0700/0930	46/54	4/9	0
4/18/2023	DS	0630/0930	45/47	0/5	0
5/9/2023	DS	0620/0940	48/60	0/1	0
6/19/2023	DS	0700/0900	61/65	0/5	0
Quarry at Pawnee Site					
3/17/2023	DS, JV	0715/0900	36/45	0/2	0
4/20/2023	DS	0615/0900	37/64	0/5	0
5/11/2023	DS	0530/0700	43/47	0/1	0
6/21/2023	DS	0630/0900	57/66	0/4	0

DS = David Smith JV = Joseph Vu

Desert Tortoise

The Project site contains suitable habitat for the desert tortoise, which is listed as federally threatened by the USFWS and state threatened under the California Endangered Species Act (CESA). GLA biologists David Smith and Joseph Vu conducted focused surveys for the desert tortoise in 2023 within all suitable habitat areas within the Project sites. Surveys were conducted in accordance with the 2010 and 2018 USFWS Mojave Desert Tortoise Pre-Project Survey Protocol, which for "small project areas" (less than 500 acres) requires 10 meter wide belt transects to cover the entire Action Area, which is defined to be any lands subject to ground-disturbing activities associated with the Project and coincides with the Project footprint for the purposes of this report. All suitable habitat was inspected for diagnostic tortoise sign (e.g., live tortoises, shell, bones, scutes, limbs, scats, burrows, pallets, tracks, eggshell fragments, courtship rings, drinking sites, mineral licks, etc.). The desert tortoise surveys were conducted on March 13, 2023 for the Cordova Complex Site and March 17, 2023 for the Quarry at Pawnee Site. Pursuant to the 2010 survey guidelines, the survey was conducted during favorable climatic conditions when air temperatures were most conducive to desert tortoise activity. Table 2-3 below lists the survey condition details. The results of the desert tortoise surveys are documented in Section 4.0 of this report and data sheets for the surveys are included as Appendix C.

Table 2-3. Summary of Desert Tortoise Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
Cordova Complex Site					
3/13/2023	DS, JV	0930/1245	55/60	5/9	0
Quarry at Pawnee Site					
3/17/2023	DS, JV	0930/1155	46/58	2/3	0

DS = David Smith JV = Joseph Vu

Mohave Ground Squirrel

The Project sites contains suitable habitat for the Mohave ground squirrel, which is designated as state threatened by CDFW. Dipodomys Ecological Consulting biologists Karla Flores and Karl Fairchild conducted focused trapping surveys for the Mohave ground squirrel in 2023 within all suitable habitat areas within both Project sites. Offsite improvement areas were not surveyed as part of the 2023 surveys because these areas contained mostly developed access roads with some areas of native vegetation that do not provide suitable habitat for this species. The following summarizes the methods used to survey the Project site for Mohave ground squirrel. Table 2-4 below summarizes the survey dates and methods. The results are summarized in Section 4.0 of this report. A complete survey report prepared by Dipodomys Ecological Consulting is included as Appendix D of this Biological Technical Report.

Survey methods were derived from generally accepted professional standards including the 2010 CDFG Mohave Ground Squirrel Survey Guidelines (CDFW 2010) and performed under a Memorandum of Understanding (MOU) with CDFW. Accordingly, a methodical pedestrian-

survey of both Project sites was conducted on April 13, 2023, to visually evaluate the limits of suitable habitat.

Since no Mohave ground squirrel were detected in either Project site during the visual survey but white tailed antelope ground squirrels (*Ammospermophilus leucurus*) were observed, and potential burrows and scat were observed on site, Mohave ground squirrel focused trapping surveys were initiated. The first two trapping sessions in each Project site occurred from April 15 to 19, 2023 and from May 12 to May 16, 2023. Census occurred within one live-trapping grid per site, situated in each Project site's highest quality habitat. Per protocol, since no Mohave ground squirrel were captured during trapping surveys one and two, a third five-day trapping session was conducted from June 28 to July 2, 2023.

Within the grid in each Project site, 100 traps were deployed at roughly 35-meter spacing. The grid consisted of a ten-by-ten array covering approximately 19 acres. Standard small-mammal aluminum, foldable, ventilated 12–inch Sherman Traps were used within each Project site for sampling purposes. The bait used consisted of crushed four-way grains with horse supplement. Folding cardboard boxes held down by dirt were deployed as shade covers for each trap as appropriate. Traps and shade covers were configured to provide the greatest shade cover possible.

Temperature readings were taken and recorded every hour at one foot above the ground and at ground level in the shade. Traps were checked every one to two hours depending on temperature and other environmental influential factors (i.e., pregnant or lactating females in traps, feral dogs on grid, cold weather, presence of juveniles, etc.). Traps were open within one hour after sunrise and closed within one hour before sunset. Traps were closed when air temperature reached 90 degrees Fahrenheit. Traps were not opened until morning temperatures reached near 50 degrees Fahrenheit. No rain occurred during the surveys. Weather data for each trapping session is provided in the survey report.

In addition to live trapping surveys, camera trapping surveys were also conducted to supplement live-trapping efforts. Camera trapping consisted of setting up five camera trapping stations throughout each Project site. Each camera trap station consisted of a Bushnell Core Low Glow Trail Camera (Model 1199932CB) secured to a 36-inch U-post facing a bait station.

Table 2-4. Summary of Mohave Ground Squirrel Surveys

Survey Date	Biologist(s)	Survey Type
Cordova Complex Site		
4/13/2023	KLF, KF	Visual Survey
4/15/2023 to 4/19/2023	KLF, KF	Live Trapping and Camera Trapping
5/12/2023 to 5/16/2023	KLF, KF	Live Trapping and Camera Trapping
6/28/2023 to 7/2/2023	KLF, KF	Live Trapping and Camera Trapping
Quarry at Pawnee Site		
4/13/2023	KLF, KF	Visual Survey

Survey Date	Biologist(s)	Survey Type
Cordova Complex Site		
4/15/2023 to 4/19/2023	KLF, KF	Live Trapping and Camera Trapping
5/12/2023 to 5/16/2023	KLF, KF	Live Trapping and Camera Trapping
6/28/2023 to 7/2/2023	KLF, KF	Live Trapping and Camera Trapping

KLF= Karla Flores KF= Karl Fairchild

Crotch's Bumble Bee

The Project site contains suitable habitat for Crotch's bumble bee (*Bombus crotchii*), which is a state candidate for listing as endangered under the CESA. GLA Biologists Jeff Ahrens and Jason Fitzgibbon conducted visual focused surveys in areas of suitable habitat in 2023. Surveys followed a protocol developed by GLA[1] which largely encompasses the CBB flight season (March to September) when the queen, daughters, males, and new queens are generally active. Surveys are preferably spaced out throughout the flight season to take advantage of different blooming periods and floral resources. The survey protocol recommends that individual biologists conduct three focused surveys during the flight season, beginning within the three acres of that contain the highest quality floral resources per every 50 acres of potential suitable habitat. Although each Project site supported less than 50 acres of potential suitable habitat, due to the overall size of the Project site and distance between suitable habitat areas, two biologists conducted focused surveys within each survey polygon.

Surveys occurred from early spring to late summer (as determined by monitoring flowering periods of known host plants) and the survey effort concentrated in those taxonomic alliances that are determined to provide the best pollen and nectar resources to Crotch's bumble bee. The timing of each survey visit was modified based on the phenology of pollinator host plants during the 2023 field season. Due to a very low abundance of floral resources observed during the second survey visit on April 14, 2023, a third survey visit was not conducted for either Project site. Pursuant to the survey guidelines, the surveys were conducted between an hour after sunrise until two hours before sunset. Weather conditions during the surveys were conducive to a high level of bee activity, with temperatures above 60° F; additionally, no surveys were conducted during or within one hour after rain.

During each focused survey, two sampling phases were implemented. During the first phase, the surveyor conducted one hour of visual survey effort within a three-acre flowering area identified as supporting the highest quality habitat as determined by the surveyor. If Crotch's bumble bee were not detected during the first hour of searching, a second hour of survey effort was conducted. During the second hour, the surveyor could either choose to resurvey the same flowering area (if *Bombus* species are detected prior) or the surveyor could choose to conduct a second hour of searching within another high quality three-acre flowering area on site. If Crotch's bumble bee were not detected during the second hour of the survey effort, the second survey phase was implemented, in which the surveyor opportunistically surveyed additional

[1] The survey protocol developed by GLA is based in part on the USFWS survey protocol for rusty-patched bumble bee (*B. affinis*).

flowering areas throughout the entire site, as deemed appropriate. The surveyor scanned for suitable flowering areas for bumble bee activity and then focused on identified suitable areas. Minimal time was spent in lesser quality habitat. Depending on the size of the habitat area, the opportunistic survey effort generally did not exceed one hour. In addition, GLA biologists documented bumble bee activity incidentally during all other biological surveys. If suspected Crotch's bumble bee were detected on site, they were photographed to confirm field identification, and GPS locations of all Crotch's bumble bee observations were recorded. Table 2-5 below lists the survey condition details. The results of the Crotch's bumble bee surveys are documented in Section 4.0 of this report.

Table 2-5. Summary of Crotch's Bumble Bee Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
Cordova Complex Site					
3/31/2023	JA, JF	1230/1430	57/57	1/5	0
4/14/2023	JA, JF	0930/1234	54/56	4/3	0
Quarry at Pawnee Site					
3/31/2023	JA, JF	0930/1230	46/57	1/5	0
4/14/2023	JA, JF	1238/1443	56/59	2/4	0

JA = Jeff Ahrens JF = Fitzgibbon

2.4 Jurisdictional Waters

The Project was delineated to identify the limits of jurisdictional waters, including waters of the U.S. (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and waters of the State (including riparian vegetation) subject to the jurisdiction of CDFW. Prior to beginning the field delineation a 200-scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/CDFW jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Potential wetland habitats at the subject site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[2] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement)[3]. The presence of an Ordinary High Water Mark (OHWM) was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States[4] in conjunction with the

[2] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[3] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[4] Lichvar, R. W., and S. M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. (http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf).

Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.[5] While in the field the limits of the OHWM, wetlands (if applicable), and CDFW jurisdiction were recorded using GPS technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets.

3.0 REGULATORY SETTING

The proposed Project is subject to state, federal, and local regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including state- and federally-listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

3.1 Endangered Species Acts

3.1.1 California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate

[5] Curtis, Katherine E. and Robert Lichevar. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Section 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

3.1.3 State and Federal Take Authorizations

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.
- In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.1.4 Western Joshua Tree Conservation Act

The Western Joshua Tree Conservation Act (WJTCA) prohibits the importation, export, take, possession, purchase, or sale of any western Joshua tree in California unless authorized by CDFW. The act authorizes CDFW to issue permits for the incidental take of one or more western

Joshua trees if the permittee meets certain conditions. Permittees may pay specified fees in lieu of conducting mitigation activities. The act also authorizes CDFW to issue permits for the removal of dead western Joshua trees and the trimming of live western Joshua trees under certain circumstances. Pursuant to the WJTCA, CDFW may enter into an agreement with any county or city to delegate limited authority to permit the taking of a western Joshua tree associated with developing single-family residences, multifamily residences, accessory structures, and public works projects. CDFW may similarly enter into an agreement with any county or city to delegate limited authority to permit the removal of dead western Joshua trees and the trimming of live western Joshua trees. Under the act, all in-lieu fees collected will be deposited into the Western Joshua Tree Conservation Fund for appropriation to CDFW solely for the purposes of acquiring, conserving, and managing western Joshua tree conservation lands and completing other activities to conserve the western Joshua tree. The WJTCA institutes two categories of mitigation fees, reduced fees and standard fees, depending on the geographical location, as defined in the California Fish and Game Code (Section 1927).

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants with a CRPR on Lists 1A, 1B, 2A, or 2B in the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants that are regionally important, such as locally rare species, disjunct populations of more common plants, or plants with a CRPR of 3 or 4.

3.2.2 Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal Candidate Species (former C1 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State Candidate for listing as Endangered
- SCT State Candidate for listing as Threatened
- FP State Fully Protected
- SSC State Species of Special Concern

CNDDB Global/State Rankings

The CNDDB provides global and state rankings for species and communities based on a system developed by The Nature Conservancy to measure rarity of a species. The ranking provides a shorthand formula about how rare a species/community is, and is based on the best information available from multiple sources, including state and federal listings, and other groups that recognize species as sensitive (e.g., Bureau of Land Management, Audubon Society, etc.). State and global rankings are used to prioritize conservation and protection efforts so that the rarest species/communities receive immediate attention. In both cases, the lower ranking (i.e., G1 or S1) indicates extreme rarity. Rare species are given a ranking from 1 to 3. Species with a ranking of 4 or 5 is considered to be common. If the exact global/state ranking is undetermined, a range is generally provided. For example, a global ranking of "G1G3" indicates that a species/community global rarity is between G1 and G3. If the animal being considered is a subspecies of a broader species, a "T" ranking is attached to the global ranking. The following are descriptions of global and state rankings:

Global Rankings

- G1 – Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or because of some factor(s) making it especially vulnerable to extinction.

- G2 – Imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range.
- G3 – Either very rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or because of some other factor(s) making it vulnerable to extinction throughout its range.
- G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 – Common, widespread and abundant.

State Rankings

- S1 – Extremely rare; typically 5 or fewer known occurrences in the state; or only a few remaining individuals; may be especially vulnerable to extirpation.
- S2 – Very rare; typically between 6 and 20 known occurrences; may be susceptible to becoming extirpated.
- S3 – Rare to uncommon; typically 21 to 50 known occurrences; S3 ranked species are not yet susceptible to becoming extirpated in the state but may be if additional populations are destroyed.
- S4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 – Common, widespread, and abundant in the state.

California Native Plant Society

CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. In a collaborative effort with CDFW's CNDDB project, CNPS's Ninth Edition of the California Native Plant Society's Inventory of Rare and Endangered Plants of California categorizes plants of interest into six CRPR based on their geographic distribution and potential threats to existing populations. The CNPS Inventory is used by CDFW as the candidate species list for plants that may be listed as state Threatened and Endangered by CDFW. The six categories of rarity that are summarized in Table 3-1.

Table 3-1. CRPR Ranks 1, 2, 3, & 4, and Threat Code Extensions

CRPR Rank	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.

CRPR Rank	Comments
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the "Inventory" and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	**Comments**
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 Jurisdictional Waters

3.3.1 Army Corps of Engineers

Pursuant to Section 404 of the CWA, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraphs (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Corps regulations at 33 CFR Part 328.3(b) exclude the following from being "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) above:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the CWA;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(c)(4) as:

> ...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

"Adjacent" wetlands are defined by 33 CFR 328.3(c)(2) as having a "continuous surface connection" to other waters of the United States.

Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(c)(1) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be hydrophytic in nature as published in the most current national wetland plant list;

- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by

migratory birds or endangered species, and the definition of "waters of the United States" in Corps regulations was modified as quoted above from 33 CFR 328.3(a).

On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the CWA.

The written opinion notes that the court's previous support of the Corps' expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc*.) was for a wetland that abutted a navigable water and that the court did not express any opinion on the question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

> *In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.*

Therefore, we believe that the court's opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the CWA (regardless of any interstate commerce connection). However, the Corps and EPA have issued a joint memorandum which states that they are interpreting the ruling to address only the migratory bird issue and leaving the other interstate commerce clause nexuses intact.

3.3.2 Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[6] and waters of the State. Waters of the United States are defined above in Section II.A and waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of

[6] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. CWA Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

The following wetlands are waters of the State:

1. Natural wetlands;
2. Wetlands created by modification of a surface water of the state;[7] and
1. Artificial wetlands[8] that meet any of the following criteria:

    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop irrigation or stock watering,
        vi. Fire suppression,
        vii. Industrial processing or cooling,

[7] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.
[8] Artificial wetlands are wetlands that result from human activity.

viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[9]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

3.3.3 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

3.4 Local Ordinances and Regulations

[9] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

3.4.1 San Bernardino County Code of Ordinance Chapter 88.01: Plant Protection And Management

The County of San Bernardino Code of Ordinance Chapter 88.01 includes regulations and guidelines for the management of plant resources to preserve and protect certain plants, including regulated desert native plants, regulated trees, and regulated riparian plants. A tree or plant removal permit would be required for the removal of a regulated tree or plant as identified in this ordinance. The following plants and trees are regulated under Chapter 88.01:

- Desert native plants with stems two inches or greater in diameter or six feet or greater in height: smoketree (*Dalea spinosa*), mesquites (*Prosopis*), all species of the family Agavaceae (century plants, nolinas, yuccas), creosote rings, ten feet or greater in diameter, all Joshua trees, desert ironwood (*Olneya tesota*), palos verdes (*Cercidium*);
- Regulated tress including native trees with a six inch or greater stem diameter or 19 inches in circumference measured four and one-half feet above natural grade level and three or more palm trees in linear plantings, which are 50 feet or greater in length within established windrows or parkway plantings; or
- Riparian trees within riparian areas or within a stream.

3.4.2 Town of Apple Valley Municipal Code Chapter 9.76 Plant Protection and Management

The Town of Apple Valley Municipal Code Chapter 9.76 includes regulations to protect and preserve desert native plants including the following:

1. Regulated Desert Native Plants. The following desert native plants or any part thereof, except the fruit, shall not be harvested or removed except under a permit issued by the Town Manager, or designee:

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

        1) smoketree (*Dalea spinosa*)
        2) All species of the family Agavaceae (century plants, nolinas, yuccas, cacti). Including the following known to Apple Valley:
            a) Mohave Yucca (*Yucca schidigera*)
            b) Lords Candle (*Yucca whipplei*)
            c) Barrel cactus (*Ferocactus acanthodes*)
        3) All species of the genus *Prosopis* (mesquites).

    b. Creosote Rings, ten feet or greater in diameter.
    c. All Joshua trees (mature or immature), subject to provision of Section 9.76.040

2. All plants protected or regulated by the State Desert Native Plant Act (i.e., Food and Agricultural Code 80001, et. seq.) shall be required to comply with the provisions of those statutes prior to the issuance of any county development permit or land use application

approval. The Town Manager, or designee, is responsible for the issuance of any required wood tags, seals or permits.

A removal permit issued by the Town Manager shall be required for the removal of any native tree or plant that is subject to the City Ordinance Chapter 9.76.010.

3.4.3 California Desert Native Plant Act

The purpose of the California Desert Native Plant Act is to protect certain California desert native plants from unlawful harvesting on both public and privately-owned lands. The Act applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. Within these counties, the Act prohibits the harvest, transport, sale, or possession of specific native desert plants under many circumstances unless a person has a valid permit or wood receipt and the required tags and seals.

4.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals, and a jurisdictional delineation for waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

4.1 Existing Conditions

The Project sites are located in the Town of Apple Valley. The Project sites are currently undeveloped and consist mostly of *Larrea tridentata* Shrubland Alliance (Creosote Bush Scrub) vegetation community with some disturbed/developed areas along the dirt access roads bordering the Project sites. Evidence of off-road vehicle movement and trash dumping is common along the dirt access roads. The Project sites include gently sloping areas with an elevation range of approximately 3,067 feet above mean sea level (AMSL) in the west to approximately 3,100 feet AMSL in the east for the Cordova Complex Site and 125 feet above AMSL in the southwest to approximately 3,168 feet AMSL in the northeast for the Quarry at Pawnee Site. The annual observed precipitation for the Apple Valley, CA region for 2023 was 7.43 inches which is higher than the average annual precipitation of approximately 6.19 inches (NOAA, 2023). I The annual observed temperature for the region for 2023 was 62.5 degrees Fahrenheit which is slightly higher than the average annual temperature of approximately 61.99 inches (NOAA, 2023).

There are several ephemeral drainage features that exhibit a bed and bank that runs throughout the Project sites, extending in a general northeast to southwest/west flow pattern. No portion of the drainage features support riparian habitat.

The NRCS has mapped the following soil types as occurring in the general vicinity of the Project sites [Exhibit 8]:

Cajon Sand, 2 to 9 Percent Slopes; Cajon-Arizo Complex, 2 to 15 Percent Slopes

The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils are on alluvial fans, fan aprons, fan skirts, inset fans and river terraces. Slopes are zero to 15 percent. The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium. Arizo soils are on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. Slope ranges from zero to 15 percent.

Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes

The Helendale series consists of very deep, well drained soils that formed in alluvium from granitoid rocks. Helendale soils are on fan piedmonts, fan remnants, alluvial fans and terraces. Slopes range from zero to 15 percent. The Bryman series consists of deep, well drained soils that formed in alluvium from dominantly granitic sources. Bryman soils are on terraces and older alluvial fans and have slopes of zero to 15 percent.

Mirage-Joshua Complex, 2 to 5 Percent Slopes

The Mirage series consist of deep, well drained soils that formed in mixed alluvium, dominantly from granitic sources. Mirage soils are on old terraces with well-developed erosion pavement and have slopes of two to five percent. The Joshua series consists of moderately deep, well drained soils that formed in material derived from mixed sources. Joshua soils are on old terraces with a well-developed erosion pavement and have slopes two to 15 percent.

Nebona-Cuddeback Complex, 2 to 9 Percent Slopes

The Nebona series consists of shallow, well drained soils that formed in mixed alluvium. Nebona soils are on terraces and have slopes of two to nine percent. The Cuddeback series consists of moderately deep, well drained soils that formed in alluvium from mixed sources. Cuddeback soils are on old terraces and alluvial fans and have slopes of two to nine percent.

4.2 Vegetation/Land Use Mapping

Two vegetation community/land use types are present within the Project sites. Both Project sites are entirely vegetated with *Larrea tridentata* Shrubland Alliance (Creosote Bush Scrub) and Disturbed/Developed. Several Joshua trees were observed within the Project sites, but areas in which they occur do not meet the MCVII membership rule for *Yucca brevifolia* Woodland Alliance (Joshua tree woodland), which requires western Joshua trees to be evenly distributed at equal to or greater than one percent canopy cover. Table 4-1 provides a summary of vegetation/land use-land cover types and the corresponding acreage. Descriptions of each vegetation or land use-land cover type follow the table. A Vegetation Map is attached as Exhibit 4. Photographs depicting the various vegetation types and land uses are attached as Exhibit 5.

Table 4-1. Summary of Vegetation/Land Use Types

VEGETATION/LAND USE TYPE	Onsite (acres)	Offsite (acres)*	TOTAL (acres)
Cordova Complex Site			
Larrea tridentata Shrubland Alliance (Creosote Bush Scrub)	86.44	17.38	103.82
Disturbed/Developed	0.00	8.05	8.05
Quarry at Pawnee Site			
Larrea tridentata Shrubland Alliance (Creosote Bush Scrub)	75.66	10.27	85.93
Disturbed/Developed	0.00	0.56	0.56
Total	**162.10**	**36.26**	**198.36**

*Offsite includes road improvements, utility improvements, and road dedications

4.2.1 *Larrea tridentata* Shrubland Alliance (Creosote Bush Scrub)

The Project sites including the onsite and offsite components contains approximately 189.75 acres of *Larrea tridentata* Shrubland Alliance (Creosote Bush Scrub), which is dominated by creosote bush (*Larrea tridentata*) in the shrub canopy, with cheese bush (*Ambrosia salsola*), white bur-sage (*Ambrosia dumosa*), western Joshua tree, desert Nevada ephedra (*Ephedra nevadensis*), and fourwing saltbush (*Atriplex canescens* ssp. *canescens*) also present. The canopy is continuous or intermittent and typically less than 3 meters tall. The herbaceous layer is open to intermittent with seasonal annuals or perennial grasses. This alliance is found in alluvial fans, bajadas, upland slopes and minor intermittent washes on well-drained soils.

4.2.2 Disturbed/Developed

The Project sites including the onsite and offsite components contains approximately 8.61 acres of Disturbed/Developed areas in the form of unpaved access roads and paved roads. These areas are routinely maintained and are primarily unvegetated.

4.3 Special-Status Natural Communities

The CNDDB did not identify any special-status natural communities for the Apple Valley North and surrounding quadrangle maps. In addition, the Project site does not contain any special-status habitats since *Larrea tridentata* Shrubland Alliance (Creosote Bush Scrub) is not considered special-status. The Project sites contain several western Joshua trees but they would not be considered a *Yucca brevifolia* Woodland Alliance (Joshua tree woodland) since they do not meet the alliance membership rules.

4.4 Special-Status Plants

The western Joshua tree, a state candidate threatened species, was the only special-status plant species detected at the Project sites. The results of a western Joshua tree inventory are provided in Section 4.4.1. Table 4-2 provides a list of special-status plants evaluated for the Project sites through general biological survey, and habitat assessments. Species were evaluated based on the

following factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Project sites, and 2) any other special-status plants that are known to occur within the vicinity of the Project sites, or for which potentially suitable habitat occurs within the site.

Table 4-2. Special-Status Plants Evaluated for the Project Sites

Species Name	Status	Habitat Requirements	Potential for Occurrence
Barstow woolly sunflower *Eriophyllum mohavense*	Federal: None State: None CRPR: Rank 1B.2	Chenopod scrub, Mojavean desert scrub, and playas.	Not detected during focused surveys
Beaver Dam breadroot *Pediomelum castoreum*	Federal: None State: None CRPR: Rank 1B.2	Sandy soils in washes and roadcuts, in Joshua tree woodland and Mojavean desert scrub.	Not detected during focused surveys
Bluish spike-moss *Selaginella asprella*	Federal: None State: None CRPR: Rank 4.3	Granitic and rocky soils in cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest.	Does not occur. No suitable habitat on the Project sites for this species.
Booth's evening-primrose *Eremothera boothii* ssp. *boothii*	Federal: None State: None CRPR: Rank 2B.3	Joshua tree woodland and pinyon and juniper woodland.	Does not occur. No suitable habitat on the Project sites for this species.
California androsace *Androsace elongata* ssp. *acuta*	Federal: None State: None CRPR: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland.	Not detected during focused surveys
Clokey's cryptantha *Cryptantha clokeyi*	Federal: None State: None CRPR: Rank 1B.2	Mojavean desert scrub.	Not detected during focused surveys
Crowned muilla *Muilla coronata*	Federal: None State: None CRPR: Rank 4.2	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland	Not detected during focused surveys
Cushenbury oxytheca *Acanthoscyphus parishii* var. *goodmaniana*	Federal: FE State: None CRPR: Rank 1B.1	Pinyon and juniper woodland (carbonate, talus)	Does not occur. No suitable habitat on the Project sites for this species.
Desert cymopterus *Cymopterus deserticola*	Federal: None State: None CRPR: Rank 1B.2	Sandy soils in Joshua tree woodland and Mojavean desert scrub.	Not detected during focused surveys

Species Name	Status	Habitat Requirements	Potential for Occurrence
Grey-leaved violet *Viola pinetorum* var. *grisea*	Federal: None State: None CRPR: Rank 1B.2	Meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest.	Does not occur. No suitable habitat on the Project sites for this species.
Johnston's monkeyflower *Diplacus (Mimulus) johnstonii*	Federal: None State: None CRPR: Rank 4.3	Lower montane coniferous forest (scree, disturbed areas, rocky or gravelly soil, roadsides)	Does not occur. No suitable habitat on the Project sites for this species.
Latimer's woodland-gilia *Saltugilia latimeri*	Federal: None State: None CRPR: Rank 1B.2	Rocky or sandy, often granitic soils (sometimes washes) in chaparral, Mojavean desert scrub, and Pinyon and juniper woodland.	Not detected during focused surveys
Mojave fish-hook cactus *Sclerocactus polyancistrus*	Federal: None State: None CRPR: Rank 4.2	Usually carbonate soils. Great basin scrub, Joshua tree woodland, Mojavean desert scrub	Not detected during focused surveys
Mojave monkeyflower *Mimulus mohavensis*	Federal: None State: None CRPR: Rank 1B.2	Sandy or gravelly, often in washes. Joshua tree woodland, Mojavean desert scrub.	Not detected during focused surveys
Mojave paintbrush *Castilleja plagiotoma*	Federal: None State: None CRPR: Rank 4.3	Great basin scrub (alluvial), Joshua tree woodland, Lower montane coniferous forest, Pinyon and juniper woodland	Does not occur. No suitable habitat on the Project sites for this species.
Mojave spineflower *Chorizanthe spinosa*	Federal: None State: None CRPR: Rank 4.2	Sometimes alkaline soil. Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, Playas	Not detected during focused surveys
Mojave tarplant *Deinandra mohavensis*	Federal: None State: SE CRPR: Rank 1B.3	Chaparral (mesic soils) and riparian scrub.	Does not occur. No suitable habitat on the Project sites for this species.
Pinyon rockcress *Boechera dispar*	Federal: None State: None CRPR: Rank 2B.3	Granitic, gravelly soils in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland.	Does not occur. Project sites is located outside of the known range for this species.
Prairie wedge grass *Sphenopholis obtusata*	Federal: None State: None CRPR: Rank 2B.2	Mesic soils in cismontane woodland, meadows and seeps.	Does not occur. No suitable habitat on the Project sites for this species.
Purple-nerve cymopterus *Cymopterus multinervatus*	Federal: None State: None CRPR: Rank 2B.2	Sandy or gravelly soils in Mojavean desert scrub and pinyon and juniper woodland.	Not detected during focused surveys

Species Name	Status	Habitat Requirements	Potential for Occurrence
Ribbed cryptantha *Johnstonella (Cryptantha) costata*	Federal: None State: None CRPR: Rank 4.3	Sandy soils in desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub.	Not detected during focused surveys
Sagebrush loeflingia *Loeflingia squarrosa* var. *artemisiarum*	Federal: None State: None CRPR: Rank 2B.2	Sandy soils in desert dunes, Great Basin scrub, and Sonoran desert scrub.	Does not occur. No suitable habitat on the Project sites for this species.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR: Rank 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur. No suitable habitat on the Project sites for this species.
San Bernardino Mountains dudleya *Dudleya abramsii* ssp. *affinis*	Federal: None State: None CRPR: Rank 1B.2	Granitic, quartzite, or carbonate soils in pebble (pavement) plain, Pinyon and juniper woodland, and upper montane coniferous forest.	Does not occur. No suitable habitat on the Project sites for this species.
Short-joint beavertail *Opuntia basilaris* var. *brachyclada*	Federal: None State: None CRPR: Rank 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland.	Not detected during focused surveys
Solitary blazing star *Mentzelia eremophila*	Federal: None State: None CRPR: Rank 4.2	Mojavean desert scrub	Not detected during focused surveys
Southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	Federal: None State: None CRPR: Rank 1B.2	Mesic soils in chaparral, cismontane woodland, lower montane coniferous forest.	Does not occur. No suitable habitat on the Project sites for this species.
Torrey's Box-thorn *Lycium torreyi*	Federal: None State: None CRPR: Rank 4.2	Sandy, rocky, washes, streambanks, desert valleys. Mojavean desert scrub and Sonoran desert scrub.	Not detected during focused surveys
White pygmy-poppy *Canbya candida*	Federal: None State: None CRPR: Rank 4.2	Gravelly, sandy, and granitic soils in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland.	Not detected during focused surveys
Yucca brevifolia Western Joshua Tree	Federal: None State: Candidate Threatened CRPR: None	Chaparral, Joshua tree woodland, Mojavean desert scrub, pinon and juniper woodlands, and Sonoran desert scrub	Present

Status

Federal
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State
SE – State Endangered
ST – State Threatened

CRPR

Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

CRPR Threat Code extension

.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Occurrence

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Not detected – The site contains suitable habitat for the species (or has the potential to), but the species was not detected during focused surveys.
- Present – The species was detected onsite incidentally or through focused surveys.

4.4.1 Western Joshua Tree Inventory

Fourteen individual western Joshua trees were observed in the Project sites, with two trees at the Cordova Complex Site and 12 trees at the Quarry at Pawnee site. All western Joshua trees aside from one tree were single trunk [Exhibit 5 – Site Photographs and Exhibit 7 – Joshua Tree Survey Map]. The data collected for each inventoried tree are provided below in Table 4-3.

Table 4-3. Summary of Western Joshua Tree Inventory

Tree ID	Latitude/ Longitude	Size Class	Height Meters (Feet)	Live or Dead?	Mature Tree (branched)?	Flowering or Fruiting Stage? (flowers, fruits, or none)	Impact to Tree	Will project activities be within 15 meters of tree?
Cordova Complex Site								
1	34.604562/ -117.191314	B	2.7 (9)	Live	Yes	None	Removal	Yes
2	34.607686/ -117.193962	B	2.1 (7)	Live	No	Flower	Removal	Yes
Quarry at Pawnee								
1	34.614116/ -117.183449	B	1.2 (4)	Live	No	None	Removal	Yes

2	34.613259/ -117.182830	B	1.5 (5)	Live	No	None	Removal	Yes
3	34.613131/ -117.182690	B	1.8 (6)	Dead	No	None	Removal	Yes
4	34.613006/ -117.182978	B	2.7 (9)	Dead	Yes	None	Removal	Yes
5	34.612704/ -117.182990	B	2.1 (7)	Dead	Yes	None	Removal	Yes
6	34.612501/ -117.182596	B	1.2 (4)	Live	No	None	Removal	Yes
7	34.612302/ -117.182150	B	1.5 (5)	Live	No	None	Removal	Yes
8	34.611759/ -117.182230	B	2.7 (9)	Live	No	None	Removal	Yes
9	34.611691/ -117.183227	B	2.7 (9)	Live	Yes	None	Removal	Yes
10	34.612001/ -117.184641	B	3.0 (10)	Live	Yes	None	Removal	Yes
11	34.611219/ -117.183678	B	3.3 (11)	Live	Yes	None	Removal	Yes
12	34.612001/ -117.184641	A	0.6 (2)	Live	No	None	Removal	Yes

*Tree ID= the number assigned in the field during the survey and separated by Project sites.

4.5 Special-Status Animals

No special-status animals were detected at the Project sites. Table 4-4 provides a list of special-status animals evaluated for the Project sites through a general biological survey and habitat assessment. Species were evaluated based on the following factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project sites, and 2) any other special-status animals that are known to occur within the vicinity of the Project sites, for which potentially suitable habitat occurs on the site.

Table 4-4. Special-Status Animals Evaluated for the Project Sites

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Crotch's bumble bee *Bombus crotchii*	Federal: None State: CE (candidate endangered)	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Not detected during focused surveys
Fish			
Mohave tui chub *Siphateles bicolor mohavensis*	Federal: FE State: SE, FP	Associated with deep pools and slough-like areas of the Mojave River, in areas with aquatic ditchgrass (*Riparia maritima*).	Does not occur. No suitable habitat on the Project sites for this species.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur. No suitable habitat on the Project sites for this species.
California red-legged frog *Rana draytonii*	Federal: FT State: SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation.	Does not occur. No suitable habitat on the Project sites for this species.
Foothill yellow-legged frog *Rana boylii*	Federal: None State: SSC	Rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	Does not occur. No suitable habitat on the Project sites for this species.
Reptiles			
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Does not occur. No suitable habitat on the Project sites for this species.
Desert tortoise *Gopherus agassizii*	Federal: FT State: ST	Requires firm ground to dig burrows, or rocks to shelter among. Found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides.	Not detected during focused surveys

Species Name	Status	Habitat Requirements	Potential for Occurrence
Western pond turtle *Emys marmorata*	Federal: None State: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur. No suitable habitat on the Project sites for this species.
Birds			
Bendire's thrasher *Toxostroma bendirei*	Federal: None State: SSC	Desert, especially areas of tall vegetation, cholla cactus, creosote bush and yucca, and in juniper woodland.	Low potential to occur
Burrowing owl *Athene cunicularia*	Federal: None State: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Not detected during focused surveys
Golden eagle *Aquila chrysaetos*	Federal: None State: WL, FP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Not expected to occur. The Project sites does not contain nesting habitat for this species.
Gray vireo *Vireo vicinior*	Federal: None State: SSC	Desert scrub, mixed juniper or pinyon pine and oak scrub associations, and chaparral, in hot, arid mountains and high plains scrubland.	Not detected during biological surveys
Le Conte's thrasher *Toxostoma lecontei*	Federal: None State: SSC	Desert scrub, mesquite, tall riparian brush and chaparral.	Moderate potential to occur
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur. No suitable habitat on the Project sites for this species.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Loggerhead shrike *Lanius ludovicianus*	Federal: None State: SSC	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Moderate potential to occur
Long-eared owl *Asio otus*	Federal: None State: SSC	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Does not occur. No suitable habitat on the Project sites for this species.
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur. No suitable habitat on the Project sites for this species.
Summer tanager *Piranga rubra*	Federal: None State: SSC	Low-elevation willow and cottonwood woodlands, and in higher-elevation mesquite and salt cedar stands.	Does not occur. No suitable habitat on the Project sites for this species.
Swainson's hawk *Buteo swainsoni*	Federal: None State: ST	Summer in wide open spaces of the American West. Nest in grasslands, but can use sage flats and agricultural lands. Nests are placed in lone trees.	Not expected to occur. This species is a seasonal migrant.
Tricolored blackbird *Agelaius tricolor*	Federal: None State: CE, SSC	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur. No suitable habitat on the Project sites for this species.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: FT State: SE	Dense, wide riparian woodlands with well-developed understories.	Does not occur. No suitable habitat on the Project sites for this species.
Yellow warbler *Setophaga petechia*	Federal: None State: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Does not occur. No suitable habitat on the Project sites for this species.
Yellow-breasted chat *Icteria virens*	Federal: None State: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur. No suitable habitat on the Project sites for this species.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Low potential to occur
Desert kit fox *Vulpes macrotis arsipus*	Federal: None State: None	Broadly distributed across the California desert and located in sparsely vegetated scrub habitats such as creosote scrub communities with abundant rodent populations.	Present
Hoary bat *Lasiurus cinereus*	Federal: None State: None WBWG: M	Prefers trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.	Does not occur. The Project sites does not contain roosting habitat.
Mohave ground squirrel *Xerospermophilus mohavensis*	Federal: None State: ST	Mojave creosote scrub, desert saltbush scrub, desert sink scrub, desert greasewood scrub, shadscale scrub, and Joshua tree woodland.	Not detected during focused surveys
Mohave river vole *Microtus californicus mohavensis*	Federal: None State: SSC	Moist habitats including meadows, freshwater marshes and irrigated pastures in the vicinity of the Mojave River.	Does not occur. No suitable habitat on the Project sites for this species.
Pallid bat *Antrozous pallidus*	Federal: None State: SSC WBWG: H	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Does not occur. The Project sites does not contain roosting habitat.
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	Federal: None State: SSC	In desert wash, desert scrub, desert succulent scrub, pinyon-juniper woodland. Sandy herbaceous areas, usually in association with rocks or coarse gravel.	There are no recent historical records in the CNDDB for this species in the region. In addition, not detected during small mammal surveys.
Sierra Nevada red fox *Vulpes vulpes necator*	Federal: None State: ST	Conifer forests. Red fir and lodgepole pines in the Sierra Nevadas.	Does not occur. Project sites is located outside of the known range for this species.
Silver-haired bat *Lasionycteris noctivagans*	Federal: None State: None WBWG: M	Temperate, northern hardwoods with ponds or streams nearby. Roost in hollow snags and bird nests.	Does not occur. No suitable habitat on the Project sites for this species.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Townsend's big-eared bat *Corynorhinus townsendii*	Federal: None State: SSC WBWG: H	Coniferous forests and woodlands, deciduous riparian woodland, semi-desert and montane shrublands.	Does not occur. No suitable habitat on the Project sites for this species.

Status

Federal
FE – Federally Endangered
FT – Federally Threatened
FPT – Federally Proposed Threatened
FC – Federal Candidate
BGEPA– Bald and Golden Eagle Protection Act

State
SE – State Endangered
ST – State Threatened
SC– State Candidate
FP – California Fully-Protected Species
SSC – Species of Special Concern

Western Bat Working Group (WBWG)
H – High Priority
LM – Low-Medium Priority
M – Medium Priority
MH – Medium-High Priority

Occurrence

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Not detected – The site contains suitable habitat for the species (or has the potential to), but the species was not detected during focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however presence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence could not be confirmed.

4.5.1 Special-Status Wildlife Species Not Detected Through Focused Surveys at the Project Sites

Burrowing Owl

No burrowing owls, or evidence of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) were observed during the focused burrowing owl surveys in 2023; therefore, the species was presumed absent from both Project sites.

The burrowing owl is state SSC species. This species occurs in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover.

Crotch's Bumble Bee

The Crotch's bumble bee was not detected during focused surveys conducted within all areas of suitable habitat in the Project sites and is presumed absent.

The Crotch's bumble bee is state candidate for listing as endangered under CESA. In California, the Crotch's bumble bee inhabits open grassland and scrub habitats. This species occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California.

The plant families most commonly associated with the Crotch's bumble bee observations or collections from California include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae. Plants in the genera *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* as example food plants. Note that these floral associations do not necessarily represent the Crotch's bumble bee's preference for these plants over other flowering plants, but rather may represent the prevalence of these flowers in the landscape where this species occurs.

Desert Tortoise

No desert tortoises or diagnostic tortoise sign (e.g., live tortoises, shell, bones, scutes, limbs, scats, burrows, pallets, tracks, eggshell fragments, courtship rings, drinking sites, mineral licks, etc.) were observed during focused desert tortoise surveys in 2023. Therefore, this species is presumed absent from the Project sites.

The desert tortoise is listed as federally and state threatened by the USFWS and CDFW. The desert tortoise inhabits arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides. This species has a moderate potential to occur on the Project sites due to suitable habitat.

Mohave Ground Squirrel

Mohave ground squirrel was not observed during the focused trapping surveys in 2023; therefore, the species was presumed absent from the Project sites.

The Mohave ground squirrel is designated as state threatened under CESA. This species occurs in Mojave creosote scrub, desert saltbush scrub, desert sink scrub, desert greasewood scrub, shadscale scrub, and Joshua tree woodland. This species has a moderate potential to occur on the Project sites due to suitable habitat.

4.5.2 Special Special-Status Wildlife Species with Potential to Occur at the Project Site

Three bird species, Bendire's thrasher, Le Conte's thrasher, and loggerhead shrike, all of which are state SSC species, were not observed during biological surveys but have potential to occur at the Project sites for foraging and nesting. These species have the potential to utilize the creosote *Larrea tridentata* Shrubland Alliance (Creosote Bush Scrub) as foraging and nesting habitat. One mammal species, the American badger (*Taxidea taxus*), and was not observed during biological surveys but the desert kit fox (*Vulpes macrotis arsipus*) was observed. Both have potential to occur at the Project sites to den. The American badger is a state SSC species and the

desert kit fox has no federal or state special status but is included here due to regional concerns for its population.

Bendire's Thrasher

The Bendire's thrasher is designated as a state SSC species. This species occurs in the desert in areas with tall vegetation, cholla cactus, creosote bush and yucca, and in juniper woodland. This species has a low potential to occur on the Project sites due to the presence of suitable habitat.

Le Conte's Thrasher

The Le Conte's thrasher is designated as a state SSC species. This species occurs in desert scrub, mesquite, tall riparian brush and chaparral. This species has a low potential to occur on the Project sites due to the presence of suitable habitat.

Loggerhead Shrike

The loggerhead shrike is designated as a state SSC species. This species forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs. This species has a moderate potential to occur on the Project sites due to the presence of suitable habitat.

American Badger

The American badger is designated as a state SSC species. This species is most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils. This species has a low potential to occur on the Project sites due to the presence of suitable habitat.

Desert Kit Fox

The desert kit fox is not listed by any wildlife agency but is included due to its regional population status. This species is broadly distributed across the California desert and located in sparsely vegetated scrub habitats such as creosote scrub communities with abundant rodent populations. This species was detected on the Quarry at Pawnee Project site through small mammal camera trapping.

4.6 Nesting Birds

The Project sites contains trees, shrubs, and ground cover that provide suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.[10] A measure is identified in Section 6.0 of this report to avoid impacts to the nesting birds.

[10] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations

4.7 Wildlife Linkages/ Corridors and Nursery Sites

Habitat linkages are areas which provide a connection between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of "gene flow" between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired.

Wildlife nurseries are sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species.

The Project sites are surrounded by undeveloped land and are not designated as a wildlife corridor, linkage, or lands important for movement by various wildlife. Regional wildlife movement was analyzed by the Bureau of Land Management California Desert Connectivity Project (Penrod et al. 2012). The closest linkages identified in the study is located approximately 1.63 miles to the north of Cordova Complex Site and 1.35 miles north of the Quarry at Pawnee Site. In addition, the Project site does not support wildlife nursery sites such as bird rookeries and heronries, bat maternity roosts, etc.

4.8 Critical Habitat

The Project sites do not occur within any areas mapped as designated or proposed Critical Habitat by the USFWS (USFWS 2023).

4.9 Jurisdictional Waters

All drainage features in the Project sites have an ephemeral flow regime typical of desert wash systems. These features exhibit a moderate gradient, which results in flows of relatively lower velocities and allows braiding to occur. OHWM indicators/evidence of flow associated with the desert washes within the Project site consist of a break in bank slope, destruction of terrestrial vegetation, sediment sorting, presence of bed and bank, and sediment deposition. These confined desert washes occur within drainages and the associated tributaries for both Project sites. The active channels of the drainages features have a sandy substrate and are generally unvegetated; upland vegetation along the margin and upper terraces consists primarily of creosote bush in the shrub canopy, with cheese bush, and desert Nevada ephedra also present. The Jurisdictional

(50 C.F.R.21). In addition, Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

Delineation Report provided as Appendix E includes a detailed discussion on each drainage feature.

4.9.1 Cordova Complex Site

Drainage features analyzed as part of the field investigation for the Cordova Complex Site include four ephemeral drainage features, designated herein as Drainages A, B, C, and D [Exhibit 9A – Regional Board Jurisdictional Delineation Map and Exhibit 9B – CDFW Jurisdictional Delineation Map]. Drainages A, B, C, and D all flow in a westward direction prior to exiting the site at the western and southern Project site boundaries. Flows that enter the Project site originate from the mountain slopes to the east. Flows generally percolate into the ground, precluding a connection to the Mojave River, which is located approximately seven miles from the Project site.

Drainage A

Drainage A enters the Project site at the eastern boundary and conveys flows westward with an OHWM ranging from one to 10 feet in width. Drainage A exits the Project site at the western boundary where it continues offsite. Tributary A1 originates onsite, conveys flows in a westward direction, and has an OHWM of one foot to five feet in width.

Drainage B

Drainage B enters the Project site at the eastern boundary and generally conveys flows in a westward direction with an OHWM ranging from one to 10 feet in width. Drainage B exits the Project site at the western boundary where it continues offsite. Tributary B1 has an OHWM of two to five feet in width. Tributary B2 has an OHWM of one to two feet in width. Tributary B3 has an OHWM of two to eight feet in width. Tributary B4 has an OHWM of two to four feet in width and Tributary B5 has an OHWM of one foot in width. All tributaries to Drainage B originate onsite and conveys flows in a westward direction.

Drainage C

Drainage C originates onsite in the central portion of the Project site and conveys flows in a southwest direction. It supports with an OHWM ranging from one to four feet and exits the Project site along the southern boundary where it continues offsite.

Drainage D

Drainage D enters the Project site at the eastern boundary and generally conveys flows to the southwest with an OHWM ranging from one to 10 feet in width. Drainage D exits the Project site at the western boundary where it continues offsite.

4.9.2 Quarry at Pawnee Site

Drainage features analyzed as part of the field investigation for the Quarry at Pawnee Site include five ephemeral drainage features occur, designated herein as Drainages E, F, G, H, and I [Exhibit 9C – Regional Board Jurisdictional Delineation Map and Exhibit 9D – CDFW Jurisdictional Delineation Map]. Drainages E, F, G, H, and I all flow westward prior to exiting the site at the western and southern Project site boundaries. Flows that enter the Project site originate offsite from the mountain slopes to the east. Flows generally percolate into the ground, precluding a connection to the Mojave River, which is located approximately seven miles from the Project site.

Drainage E

Drainage E originates onsite in the central portion of the Project site and conveys flows in a southwest direction. It has an OHWM of one feet in width. Drainage E exits the Project site along the western boundary where it continues offsite.

Drainage F

Drainage F enters the Project site at the eastern boundary and conveys flows in a southwest direction with an OHWM ranging from one to 10 feet in width. Tributaries F1 and F2 have an OHWM of two feet in width. Drainage F and its tributaries exits the Project site along the western boundary where it continues offsite.

Drainage G

Drainage G enters the Project site at the eastern boundary and conveys flows in a western direction with an OHWM ranging from one to eight feet in width. Drainage G exits the Project site at the western boundary where it continues offsite.

Drainage H

Drainage H enters the Project site at the eastern boundary and conveys flows in a southern direction with an OHWM ranging from one to 20 feet in width. Drainage H exits the Project site at the southern boundary where it continues offsite.

Drainage I

Drainage I enters the Project site at the eastern boundary and conveys flows in a southwest direction with an OHWM of four feet in width. Drainage I exits the Project site at the southeastern boundary where it continues offsite.

4.9.3 Corps Jurisdiction

No Corps jurisdiction is present within the Project sites.

Flows associated with Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site do not comprise relatively permanent, standing or

continuously flowing bodies of water and are not tributary to interstate waters or waters used in interstate commerce. Drainages A through D convey surface water only in direct response to precipitation (e.g., rain) and as such rarely contain surface water. No surface water was present at the time of the site visits. As a result, Drainage A through D for the Cordova Complex Site and Drainage E through I at the Quarry at Pawnee Site are not considered waters of the U.S that would be subject to Corps jurisdiction pursuant to Section 404 of the CWA.

4.9.4 Regional Board Jurisdiction

Regional Board jurisdiction is limited to the ephemeral drainage features (Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site) and their tributaries and totals approximately 1.63 acres (0.93 acre for Cordova Complex Site and 0.70 for Quarry at Pawnee Site), none of which consists of State wetlands. A total of approximately 16,817 linear feet of ephemeral stream are present.

Since Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site are not subject to Corps jurisdiction pursuant to Section 404 of the CWA, these features are also not subject to Regional Board jurisdiction pursuant to Section 401 of the CWA. However, since these features convey surface flow in direct response to precipitation with the potential to support beneficial uses, they are considered to be waters of the State that would be regulated by the Regional Board pursuant to Section 13260 of the California Water Code (CWC)/the Porter-Cologne Act. No riparian or wetland areas were observed within the Project sites.

Table 4-5 below summarizes Regional Board jurisdictional waters within the Project sites. The boundaries of Regional Board jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 9A and 9C].

Table 4-5. Summary of Regional Board Jurisdiction

Drainage Name	Regional Board Jurisdictional Non-Wetland Waters (acres)	Regional Board Jurisdictional Wetlands (acres)	Total Regional Board Jurisdiction (acres)	Length (linear feet)
Cordova Complex Site				
Drainage A	0.08	0	0.08	761
Tributary A1	0.02	0	0.02	219
Drainage B	0.61	0	0.61	2,545
Tributary B1	0.09	0	0.09	1,129
Tributary B2	0.01	0	0.01	358
Tributary B3	0.05	0	0.05	330
Tributary B4	0.01	0	0.01	105
Tributary B5	<0.01	0	<0.01	118
Drainage C	0.05	0	0.05	969
Drainage D	0.01	0	0.01	89
Total	**0.93**	**0**	**0.93**	**6,623**

Quarry at Pawnee Site				
Drainage E	0.03	0	0.03	1,245
Drainage F	0.31	0	0.31	3,728
Tributary F1	0.03	0	0.03	573
Tributary F2	0.01	0	0.01	157
Drainage G	0.14	0	0.14	2,118
Drainage H	0.15	0	0.15	2,046
Drainage I	0.03	0	0.03	327
Total	**0.70**	**0**	**0.70**	**10,194**

4.9.5 CDFW Jurisdiction

CDFW jurisdiction is limited to the ephemeral drainage features (Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site) and their tributaries and totals approximately 1.63 acres (0.93 acre for Cordova Complex Site and 0.70 acre for Quarry at Pawnee Site), none of which consists of wetlands or vegetated riparian habitat. A total of approximately 16,817 linear feet of ephemeral stream are present. These features exhibit defined stream flow indictors as evidenced by changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, and incised channel bank. Since these features exhibit a discernable stream course, they are subject to regulation by the CDFW under Section 1602 of the Fish and Game Code. No riparian or wetland areas were observed within the Project sites.

Table 4-6 below summarizes CDFW jurisdictional waters within the Project sites. The boundaries of potential CDFW jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 9B and 9D].

Table 4-6. Summary of CDFW Jurisdiction

Drainage Name	CDFW Non-riparian Stream (acres)	CDFW Riparian Habitat (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Cordova Complex Site				
Drainage A	0.08	0	0.08	761
Tributary A1	0.02	0	0.02	219
Drainage B	0.61	0	0.61	2,545
Tributary B1	0.09	0	0.09	1,129
Tributary B2	0.01	0	0.01	358
Tributary B3	0.05	0	0.05	330
Tributary B4	0.01	0	0.01	105
Tributary B5	<0.01	0	<0.01	118
Drainage C	0.05	0	0.05	969
Drainage D	0.01	0	0.01	89
Total	**0.93**	**0**	**0.93**	**6,623**
Quarry at Pawnee Site				
Drainage E	0.03	0	0.03	1,245
Drainage F	0.31	0	0.31	3,728

Tributary F1	0.03	0	0.03	573
Tributary F2	0.01	0	0.01	157
Drainage G	0.14	0	0.14	2,118
Drainage H	0.15	0	0.15	2,046
Drainage I	0.03	0	0.03	327
Total	**0.70**	**0**	**0.70**	**10,194**

*Sum of individual parts may not equal sum total due to rounding error.

4.10 Local Ordinances and Regulations

The County of San Bernardino Code of Ordinance Chapter 88.01 and the Town of Apple Valley Municipal Code Chapter 9.76 includes regulations and guidelines for the management of plant resources to preserve and protect certain plants, including regulated desert native plants, regulated trees, regulated riparian plants, and plants protected under the California Desert Native Plants Act.

The Project sites contain three desert native tree/plants that would be regulated under the County of San Bernardino Code of Ordinance Chapter 88.01 or the Town of Apple Valley Municipal Code Chapter 9.76, including the western Joshua tree, silver cholla (*Cylindropuntia echinocarpa*), and beavertail (*Opuntia basilaris*) [Exhibit 7 and Exhibit 10].

As noted in Section 4.10 the Cordova Complex Site has two individual western Joshua trees within the Project site and the Quarry at Pawnee Site has 12 individual western Joshua trees. The Quarry at Pawnee Site has two beavertail and three silver cholla within the Project site. None of these species was observed within the Cordova Complex Site. These species is further discussed in Section 5.2.1 and Section 5.7 and a measure is identified in Section 6.0 of this report to offset impacts to the western Joshua tree, silver cholla, and beavertail.

5.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that would occur as a result of the proposed project. Impacts (or effects) can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or animals, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Indirect impacts pertain to those impacts that result in a change to the physical environment, but which is not immediately related to a project. Indirect (or secondary) impacts are those that are reasonably foreseeable and caused by a project, but occur at a different time or place. Indirect impacts can occur at the urban/wildland interface of projects, to biological resources located downstream from projects, and other off site areas where the effects of the project may be experienced by plants and wildlife. Examples of indirect impacts include the effects of increases in ambient levels of noise or light; predation by domestic pets; competition with exotic plants and animals; introduction of toxics, including pesticides; and other human disturbances such as

hiking, off-road vehicle use, unauthorized dumping, etc. Indirect impacts are often attributed to the subsequent day-to-day activities associated with project build-out, such as increased noise, the use of artificial light sources, and invasive ornamental plantings that may encroach into native areas. Indirect effects may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by non-native invasives, as well as changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. A cumulative impact can occur from multiple individual effects from the same project, or from several projects. The cumulative impact from several projects is the change in the environment resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

5.1 California Environmental Quality Act

5.1.1 CEQA Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to

> eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species...

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed Project.

5.1.2 Criteria for Determining Significance Pursuant to CEQA

In accordance with Appendix G (Environmental Checklist Form) to the State CEQA Guidelines, the Project would have a significant biota impact if it would:

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

5.2 Impacts to Special-Status Species

Appendix G(a) of the CEQA guidelines considers whether a project is likely to "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."

5.2.1 Impacts to Special-Status Plant Species

As noted in Section 4.4, the western Joshua tree was detected in both Project sites. No other special-status plants were detected at the Project sites during focused plant surveys.

The proposed Project will eliminate habitat for the western Joshua tree and remove 14 individual trees (two at the Cordova Complex Site and 12 at the Quarry at Pawnee Site). The removal of a state candidate threatened species would be considered potentially significant prior to mitigation. Impacts to western Joshua trees would require an incidental take permit (ITP) issued by CDFW and compensatory mitigation. Mitigation may include relocation, preservation/avoidance in place, and/or in-kind replacement at a ratio determined in coordination with CDFW. Compensatory mitigation could also include payment of a mitigation fee pursuant to the Western Joshua Tree Conservation Act, which allows for in-lieu fees to be collected for the take of western Joshua trees. A tree removal permit would also be required pursuant to the County of San Bernardino Code of Ordinance Chapter 88.01 and Town of Apple Valley Municipal Code Chapter 9.76. A measure is identified in Section 6.0 of this report to offset impacts to the western Joshua tree.

5.2.2 Impacts to Special-Status Animals

The Project site has the potential to support the following species: Crotch's bumble bee, burrowing owl, desert tortoise, Mohave ground squirrel, Le Conte's thrasher, Bendire's thrasher, loggerhead shrike, American badger, and desert kit fox.

The proposed Project will result in the loss of habitat that has the potential to support special-status species, including Le Conte's thrasher, Bendire's thrasher, and loggerhead shrike. Impacts to these species may be significant under CEQA. However, based on the relatively low sensitivity ranking, broad distribution, surrounding suitable habitat in adjacent vacant lands, and the inclusion of a pre-construction nesting bird survey and pre-construction clearance survey included in Section 6.0, impacts to the Le Conte's thrasher, Bendire's thrasher, loggerhead shrike, American badger, and desert kit fox would be less than significant.

As noted in Section 4.5.1, focused protocol surveys conducted for the Crotch's bumble bee, burrowing owl, desert tortoise, and Mohave ground squirrel confirmed that these species are absent from the Project sites. Implementation of the proposed Project would not impact these species.

Although burrowing owl and desert tortoise were not observed during the focused surveys conducted for the Project, measures are identified in Section 6.0 of this report for pre-construction surveys to avoid impacts to these species should they colonize the Project sites after the completion of the focused surveys and prior to the start of construction activities.

5.3 Impacts to Natural Communities

Appendix G(b) of the CEQA guidelines consider whether a project is likely to "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified

in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."

As noted in Section 4.3, the Project site does not contain riparian habitat or special-status natural communities. The majority of the Project site is disturbed and the native vegetation community onsite is not considered special status. Therefore, the proposed Project would have no impacts on riparian habitat or other sensitive natural communities. Table 5-1 provides a summary of impacts to vegetation/land use types.

Table 5-1. Summary of Vegetation/Land Use Impacts

VEGETATION/LAND USE TYPE	Onsite (acres)	Offsite (acres)*	TOTAL (acres)
Cordova Complex Site			
Larrea tridentata Shrubland Alliance (Creosote Bush Scrub)	86.44	17.38	103.82
Disturbed/Developed	0.00	8.05	8.05
Quarry at Pawnee Site			
Larrea tridentata Shrubland Alliance (Creosote Bush Scrub)	75.66	10.27	85.93
Disturbed/Developed	0.00	0.56	0.56
Total	**162.10**	**36.26**	**198.36**

*Offsite includes road improvements, utility improvements, and road dedications

5.4 Wetlands

Appendix G(c) of the CEQA guidelines considers whether a project is likely to "have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?"

The Project site does not contain any state or federally protected wetlands. Therefore, the proposed Project would have no impacts on state or federally protected wetlands.

5.5 Wildlife Movement and Native Wildlife Nursery Sites

Appendix G(d) of the CEQA guidelines considers whether a project is likely to "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites."

5.5.1 Wildlife Movement and Wildlife Nursery Sites

The Project sites is not designated as a wildlife corridor, linkage, or lands important for movement by various wildlife. In addition, the Project site does not support wildlife nursery sites such as bird rookeries and heronries, bat maternity roosts, etc. Therefore, the proposed Project would not interfere with or impact (1) the movement of native resident or migratory fish or

wildlife species, (2) established native resident or migratory wildlife corridors, or (3) the use of native wildlife nursery sites, and therefore would be considered a no impact pursuant to CEQA.

5.5.2 Nesting Birds and Migratory Bird Treaty Act Considerations

The Project site has the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to September 15). Impacts to nesting birds are prohibited by the California Fish and Game Code. Although impacts to migratory birds are prohibited by California Fish and Game Code, impacts to migratory birds by the proposed Project would not be a significant impact under CEQA. The migratory birds with potential to nest on the Project site would be those that are extremely common to the region and highly adapted to human landscapes (e.g., killdeer, mourning dove). A measure is identified in Section 6.0 of this report to avoid impacts to nesting birds.

5.6 Impacts to Critical Habitat

The Project site is not located within any areas designated critical habitat by the USFWS (USFWS 2023). Therefore, the project would not impact lands designated as critical habitat by the USFWS.

5.7 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance."

The Project sites contain several individuals of western Joshua tree, silver cholla, and beavertail, which are regulated under the California Desert Native Plant Act, the County of San Bernardino Code of Ordinance Chapter 88.01, and the Town of Apple Valley Municipal Code Chapter 9.76. Impacts to western Joshua tree are discussed in Section 5.2.1 and a measure to offset impacts to this species is identified in Section 6.0 of this report which will satisfy the requirements for the California Desert Native Plant Act, the County of San Bernardino Code of Ordinance, and the Town of Apple Valley Municipal codes.

Pursuant to the Town Of Apple Valley's Interim Local Policy And Procedures On The Western Joshua Tree (Appendix F) "No additional approvals are required by the Town if an ITP is obtained from CDFW." Since the Project would acquire an ITP from CDFW, no other actions are required to comply with the Town of Apple Valley's local policies and regulations.

A removal permit pursuant to the Town of Apple Valley Municipal Code Chapter 9.76 would be required for the removal of silver cholla and beavertail located on the Quarry at Pawnee Site. A measure is identified in Section 6.0 of this report to comply with the Town of Apple Valley's policy on protected desert native plants.

Through compliance with the measure identified in Section 6.0, impacts to western Joshua trees and desert native plants would be less than significant therefore would not conflict with local policies and ordinances.

5.8 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines considers whether a project is likely to "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan."

The Project site is not located within the boundary of an HCP/NCCP. Therefore, the proposed Project would not conflict with an adopted NCCP/HCP, nor would it conflict with other approved local, regional, or state habitat conservation plans.

5.9 Impacts to Jurisdictional Waters

5.9.1 Impacts to Corps Jurisdiction

No Corps jurisdiction is present within the Project site. Therefore, there would be no impacts to drainage features under Corps jurisdiction.

5.9.2 Impacts to Regional Board Jurisdiction

Under the proposed Project, a total of 1.63 acres of state waters subject to Regional Board jurisdiction would be permanently impacted (0.93 acre for Cordova Complex Site and 0.70 for Quarry at Pawnee Site), none of which consists of state wetlands [Exhibit 11A and 11C]. A total of 16,817 linear feet of streambed will be permanently impacted. Table 5-2 below summarizes the impacts to each Regional Board jurisdictional feature. Refer to Section 6.0, Recommended Mitigation/Avoidance Measures for measures to offset these impacts.

Table 5-2. Summary of Impacts to Regional Board Jurisdictional Waters

Drainage Name	Regional Board Impacts Non-Wetland Waters (acres)	Regional Board Impacts Wetlands (acres)	Total Regional Board Impacts (acres)	Length (linear feet)
Cordova Complex Site				
Drainage A	0.08	0	0.08	761
Tributary A1	0.02	0	0.02	219
Drainage B	0.61	0	0.61	2,545
Tributary B1	0.09	0	0.09	1,129
Tributary B2	0.01	0	0.01	358
Tributary B3	0.05	0	0.05	330
Tributary B4	0.01	0	0.01	105
Tributary B5	<0.01	0	<0.01	118
Drainage C	0.05	0	0.05	969
Drainage D	0.01	0	0.01	89

Total	**0.93**	**0**	**0.93**	**6,623**
Quarry at Pawnee Site				
Drainage E	0.03	0	0.03	1,245
Drainage F	0.31	0	0.31	3,728
Tributary F1	0.03	0	0.03	573
Tributary F2	0.01	0	0.01	157
Drainage G	0.14	0	0.14	2,118
Drainage H	0.15	0	0.15	2,046
Drainage I	0.03	0	0.03	327
Total	**0.70**	**0**	**0.70**	**10,194**

5.9.3 Impacts to CDFW Jurisdiction

Under the proposed Project, a total of 1.63 acres of CDFW jurisdiction would be permanently impacted (0.93 acre for Cordova Complex Site and 0.70 acre for Quarry at Pawnee Site), none of which consists of vegetated riparian habitat [Exhibit 11B and 11D]. A total of 16,817 linear feet of streambed will be permanently impacted. Table 5-3 below summarizes the impacts to each CDFW jurisdictional feature. Refer to Section 6.0, Recommended Avoidance Measures for measures to offset these impacts.

Table 5-3. Summary of Impacts to CDFW Jurisdictional Waters

Drainage Name	CDFW Impacts Non-Riparian Stream (Acres)	CDFW Impacts Riparian Stream (Acres)	Total CDFW Impacts (Acres)	Total CDFW Impacts (Linear Feet)
Cordova Complex Site				
Drainage A	0.08	0	0.08	761
Tributary A1	0.02	0	0.02	219
Drainage B	0.61	0	0.61	2,545
Tributary B1	0.09	0	0.09	1,129
Tributary B2	0.01	0	0.01	358
Tributary B3	0.05	0	0.05	330
Tributary B4	0.01	0	0.01	105
Tributary B5	<0.01	0	<0.01	118
Drainage C	0.05	0	0.05	969
Drainage D	0.01	0	0.01	89
Total	**0.93**	**0**	**0.93**	**6,623**
Quarry at Pawnee Site				
Drainage E	0.03	0	0.03	1,245
Drainage F	0.31	0	0.31	3,728
Tributary F1	0.03	0	0.03	573
Tributary F2	0.01	0	0.01	157
Drainage G	0.14	0	0.14	2,118
Drainage H	0.15	0	0.15	2,046
Drainage I	0.03	0	0.03	327
Total	**0.70**	**0**	**0.70**	**10,194**

5.10 Cumulative Impacts to Biological Resources

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. “Related projects” refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. The Project includes two development sites adjacent to each other and would result in potentially significant impacts to biological resources such as the western Joshua tree prior to mitigation but would be less than significant with mitigation.

The construction of the Project could result in indirect impacts on biological resources. These impacts could result from drainage discharges from the Project site, lighting from the final build out, and the spread of invasive species. Measures are included in Section 6.0 to avoid and minimize indirect impacts.

6.0 AVOIDANCE AND MINIMIZATION MEASURES

The following discussion provides project-specific minimization/avoidance measures for actual or potential impacts to special-status resources.

6.1 Burrowing Owl

Although burrowing owls were not detected onsite during focused surveys conducted in 2023, the Project sites contains suitable habitat for burrowing owls. The following measure is recommended to avoid direct impacts to burrowing owls that may have colonized after the surveys were conducted and before the start of construction.

- **Take Avoidance Survey:** A qualified biologist will conduct two pre-construction presence/absence surveys for burrowing owls, one no less than 14 days prior to site disturbance, and one within 24 hours of site ground-disturbing activities (e.g., disking, vegetation clearing, clearing and grubbing, equipment staging, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls are not detected during the pre-construction take avoidance survey surveys, then no additional action is required. If burrowing owls are detected on site, the owls will be relocated/excluded from the site per the Burrowing Owl Relocation and Protection Plan prepared for the Project.

6.2 Nesting Birds

The Project sites contains vegetation and bare ground with the potential to support native nesting birds. As discussed above, the California Fish and Game Code prohibits mortality of native birds, including eggs. The following measure is recommended to avoid take of nesting birds. Potential impacts to native birds were not considered a biologically significant impact under CEQA; however, to comply with state law, the following is recommended:

- As feasible, vegetation clearing should be conducted outside of the nesting season, which is generally identified as February 1 through September 15. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a pre-construction nesting bird survey within seven days prior to any disturbance of the site, including disking, vegetation clearing, clearing and grubbing, equipment staging, etc. If active nests are identified during the pre-construction nesting bird survey, the biologist shall establish suitable buffers around the nests, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Typical suitable buffers can include up to 300 feet for non-raptor species and 500 feet for raptors or at the biologist's discretion.

6.3 Western Joshua Trees

As noted in Section 4.10, 14 individual western Joshua trees were mapped during the Joshua tree survey (two for the Cordova Complex Site and 12 for the Quarry at Pawnee Site). The following measures are recommended to offset impacts to the western Joshua trees.

- As western Joshua tree is a state candidate threatened species, an ITP shall be obtained from CDFW prior to Project activities either in the form of a CESA ITP or through the provisions outlined in the Western Joshua Tree Conservation Act. In the event the western Joshua tree is not listed as an endangered or threatened species and/or CDFW removes this species from candidate status before impacts occur, then an ITP from CDFW would not be required. However, authorization for removal of western Joshua trees would still be required through the Western Joshua Tree Conservation Act.
- Pursuant to the Western Joshua Tree Conservation Act, mitigation for the western Joshua tree can be acquired on a per tree basis. Monetary amounts for each removed western Joshua tree include: 1) One thousand dollars ($1000) for each western Joshua tree five meters (16.40 feet) or greater in height, 2) Two hundred dollars ($200) for each western Joshua tree one meter (3.28 feet) or greater but less than five meters (16.4 feet) in height, and 3) One hundred twenty-five dollars ($125) for each western Joshua tree less than one meter (3.28 feet) in height.

6.4 Desert Tortoise

The following measure is recommended to avoid direct impacts to desert tortoise that may have colonized after the surveys were conducted and before the start of construction.

- Pre-Disturbance Desert Tortoise Clearance Survey: A qualified biologist will conduct pre-disturbance desert tortoise clearance survey within three days of site ground-disturbing activities (e.g., disking, vegetation clearing, clearing and grubbing, equipment staging, etc.). If desert tortoise are not detected during the pre-disturbance desert tortoise clearance survey, then no additional action is required. If desert tortoise are detected on site, the Project applicant would be required to obtain take authorization under FESA and CESA, likely in the form of a Biological Opinion issued by USFWS, and an ITP issued by CDFW prior to conducting any Project-associated ground-disturbing activities, or would need to avoid conducting any Project-related ground-disturbing activities within

the portions of the Project site deemed to be occupied by desert tortoise by a qualified biologist.

6.5 Desert Native Plants

- Pursuant to Town of Apple Valley Municipal Code Chapter 9.76. the Project applicant will submit an application to the Town for removal or relocation of protected native desert plants protected under the Town's Municipal Code Chapter 9.76. No further mitigation is required. The land use application and/or development permit approved by the Project, which would constitute the removal permit for the silver cholla and beavertail, may include permit conditions such as salvaging or incorporating the plant into the landscape plan of the Project. The Project would comply with final conditions of the land use application and/or development permit when it is approved by the Town of Apple Valley.

6.6 Jurisdictional Waters

As noted above, the Project will permanently impact a total of 1.63 acres of waters of the State under Regional Board jurisdiction (all non-wetland waters). The Project will also permanently impact a total of 1.63 acres of CDFW jurisdiction, none of which consists of vegetated riparian habitat. A total of 16,817 linear feet of streambed will be permanently impacted. The following measure identifies mitigation proposed for impacts to jurisdictional waters.

- Impacts to jurisdictional waters shall be mitigated at a minimum 1:1 ratio, subject to approval of the Regional Board and CDFW, and shall be mitigated through the use of a mitigation bank (i.e. Black Mountain Conservation Bank, Mojave River Watershed Mitigation Bank, etc), or developer-responsible mitigation.

6.7 American Badger and Desert Kit Fox

As noted above, the Project has the potential to support the American badger and desert kit fox. The following measure is recommended to avoid impacts to these species.

- Pre-Disturbance Clearance Survey: A qualified biologist will conduct pre-disturbance clearance survey for the American badger and/or desert kit fox within seven days of site ground-disturbing activities (e.g., disking, vegetation clearing, clearing and grubbing, equipment staging, etc.). If the American badger and/or desert kit fox are not detected during the pre-disturbance clearance survey in an active den, then no additional action is required. If the American badger and/or desert kit fox are detected on site in an active den, then the Project applicant would be required to contact CDFW prior to conducting any Project-associated ground-disturbing activities and create a relocation plan to avoid/minimize impacts to these species. An avoidance buffer of 300 feet will be implemented around the active den until the den is determined to be inactive.

6.8 Indirect Impacts

As noted above, the Project has the potential to cause indirect impacts on biological resources from indirect impacts such as drainage discharges from the Project site, lighting from the final build out, and the spread of invasive species. The following measures are recommended to avoid/minimize indirect impacts.

- The Project's contractor will develop a Stormwater Pollution Prevention Plan (SWPPP) to manage runoff and water quality during construction. There shall be no discharge of toxins, chemicals, petroleum products, and exotic plant materials from the Project and construction site onto the surrounding undeveloped areas.
- Night lighting shall be directed away and down-shielded such that the Project will not illuminate adjacent undeveloped areas.
- Invasive, non-native plant species listed on the California Invasive Plant Council's Inventory of Invasive Plants (https://www.cal-ipc.org/plants/inventory/) shall not be incorporated in the landscape plans for the Project for areas within 100 feet of undeveloped areas.

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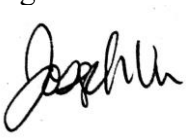
8.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed: Date: March 21, 2024



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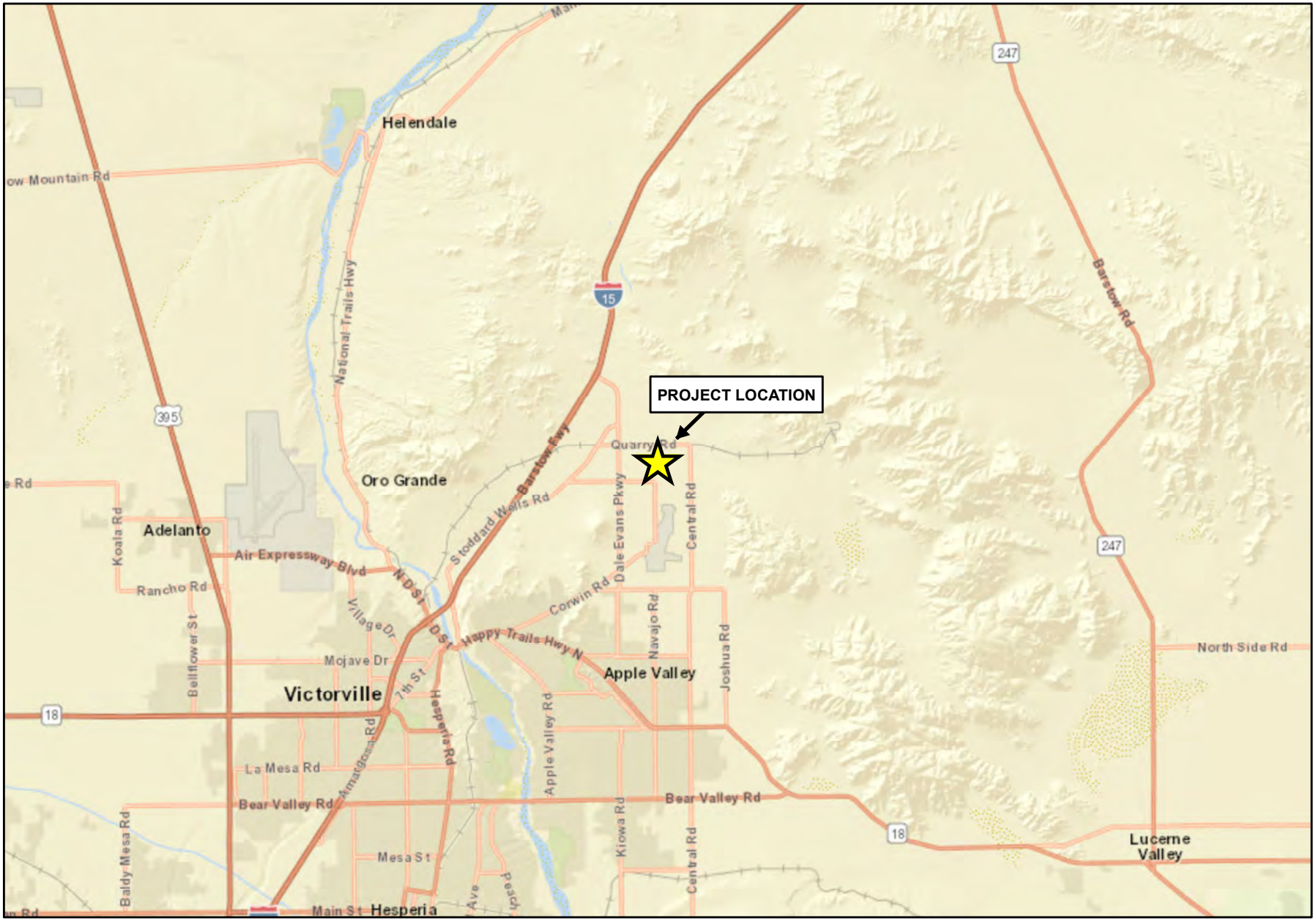

Source: ESRI World Street Map

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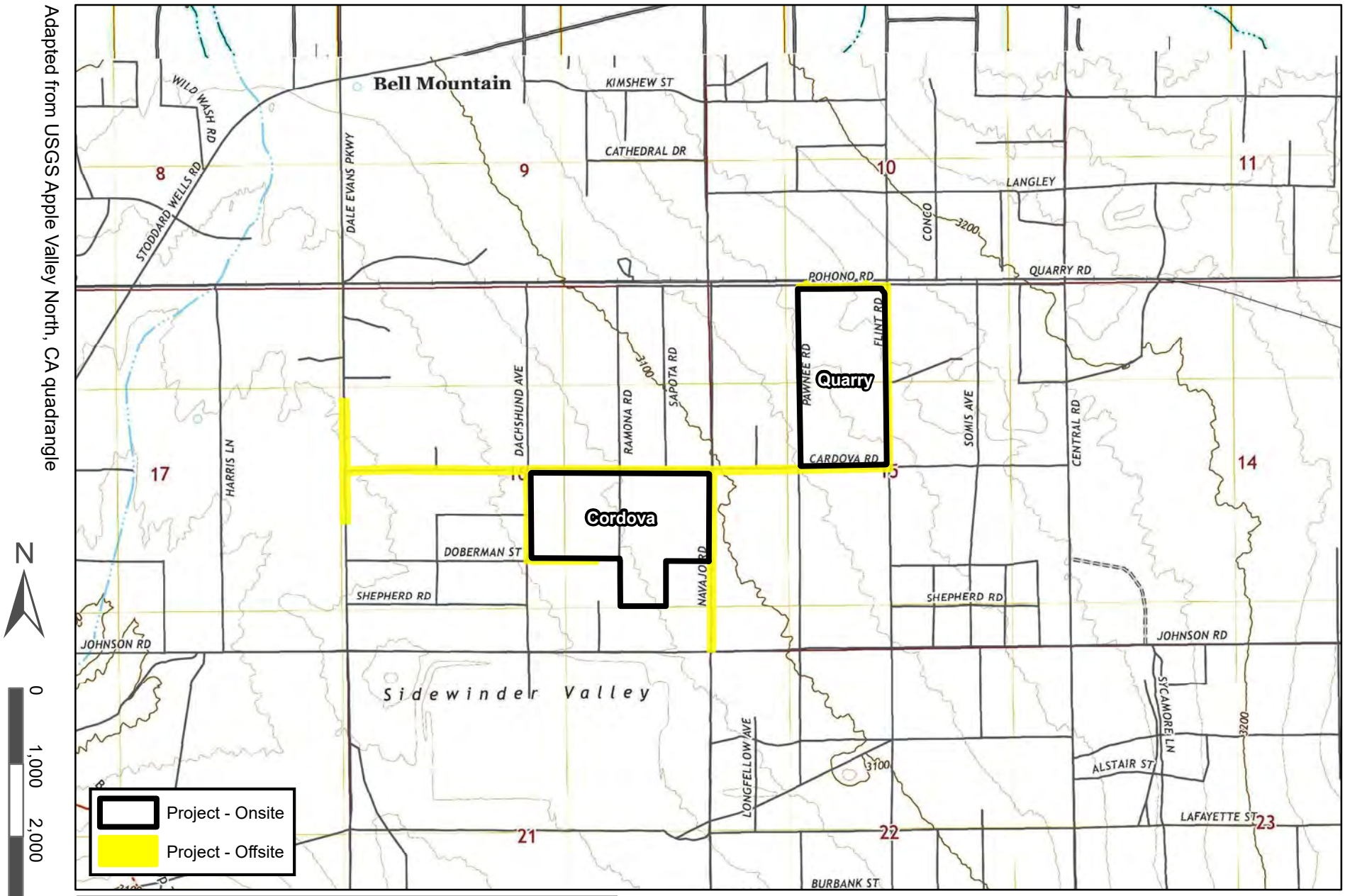
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Project - Onsite

Project - Offsite

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\1100 AFTER THE REST\1588-02CORD\GIS\1588-02_ProjectSite.mxd

Project - Onsite

Project - Offsite

Creosote Bush Scrub

Developed

Disturbed

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 4

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Photograph 1: Representative photo of *Larrea tridenata Shrubland Alliance (Creosote Bush Scrub)* within the Cordova Complex Site.

Photograph 2: Representative photo of a creosote ring within the Cordova Complex Site. Note the raised dirt mound along with the uniform growth around the perimeter. This ring measured nine feet in diameter.

Photograph 3: Representative photo of *Larrea tridenata Shrubland Alliance (Creosote Bush Scrub)* within the Quarry at Pawnee Site.

Photograph 4: Photo of the western Joshua tree (Tree ID#1) within the Cordova Complex Site.

Photograph 5: Photo of the western Joshua tree (Tree ID#2) within the Cordova Complex Site.

Photograph 6: Photo of the western Joshua tree (Tree ID#1) within the Quarry at Pawnee Site.

Photograph 7: Photo of the western Joshua tree (Tree ID#2) within the Quarry at Pawnee Site.

Photograph 8: Photo of the western Joshua tree (Tree ID#3) within the Quarry at Pawnee Site.

Photograph 9: Photo of the western Joshua tree (Tree ID#4) within the Cordova Complex Site.

Photograph 10: Photo of the western Joshua tree (Tree ID#5) within the Quarry at Pawnee Site.

Photograph 11: Photo of the western Joshua tree (Tree ID#6) within the Quarry at Pawnee Site.

Photograph 12: Photo of the western Joshua tree (Tree ID#7) within the Quarry at Pawnee Site.

Photograph 13: Photo of the western Joshua tree (Tree ID#8) within the Cordova Complex Site.

Photograph 14: Photo of the western Joshua tree (Tree ID#9) within the Quarry at Pawnee Site.

Photograph 15: Photo of the western Joshua tree (Tree ID#10) within the Quarry at Pawnee Site.

Photograph 16: Photo of the western Joshua tree (Tree ID#11) within the Quarry at Pawnee Site.

Photograph 17: Photo of the western Joshua tree (Tree ID#12) within the Quarry at Pawnee Site.

Project - Onsite

Project - Offsite

Burrow Complex

Burrow

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Burrowing Owl Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 6

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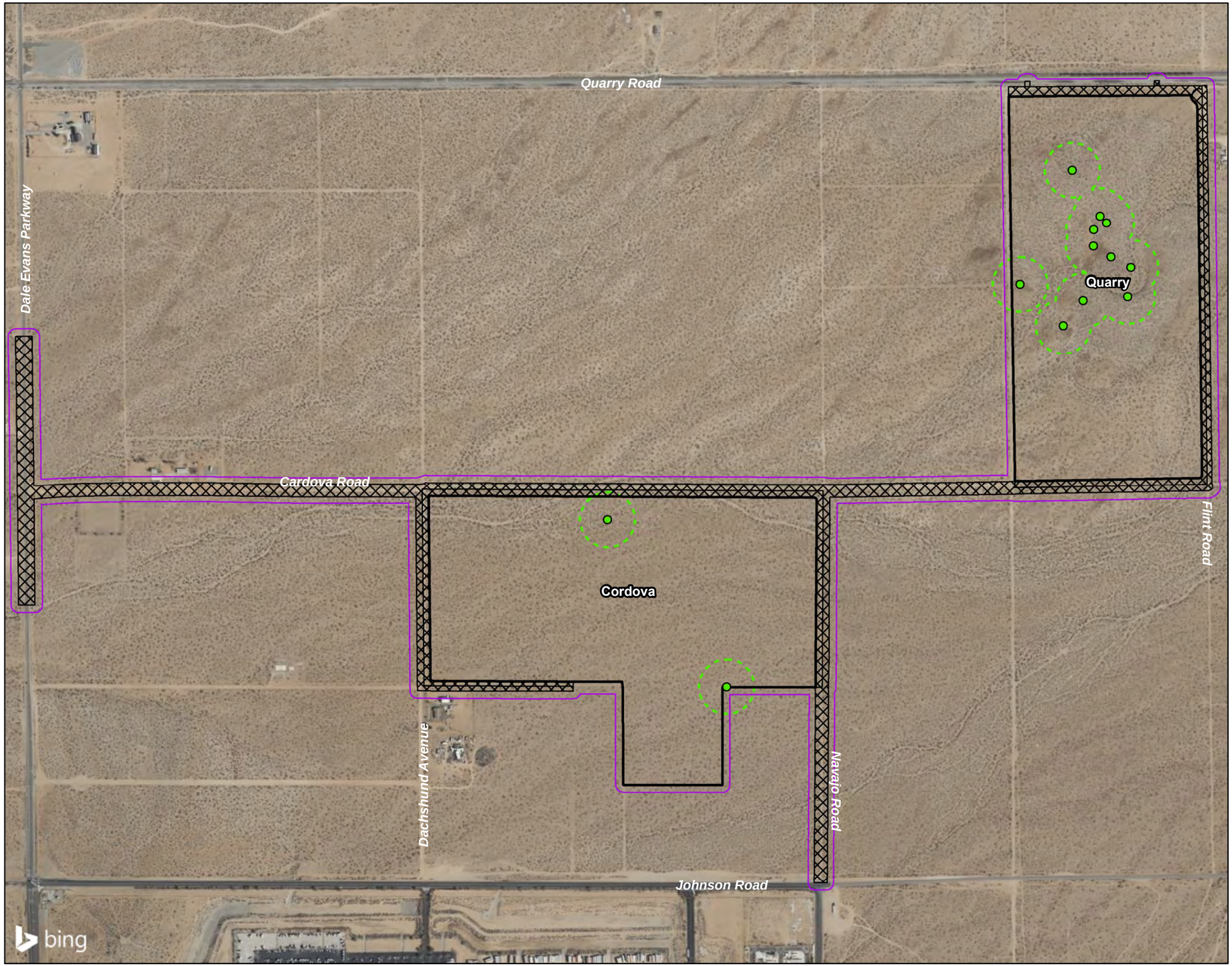

Project - Onsite

Project - Offsite

50-Foot Census Buffer

Joshua Tree

186' Western Joshua Tree Seed Bank Buffer

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Joshua Tree Survey Map

GLENN LUKOS ASSOCIATES

Exhibit 7

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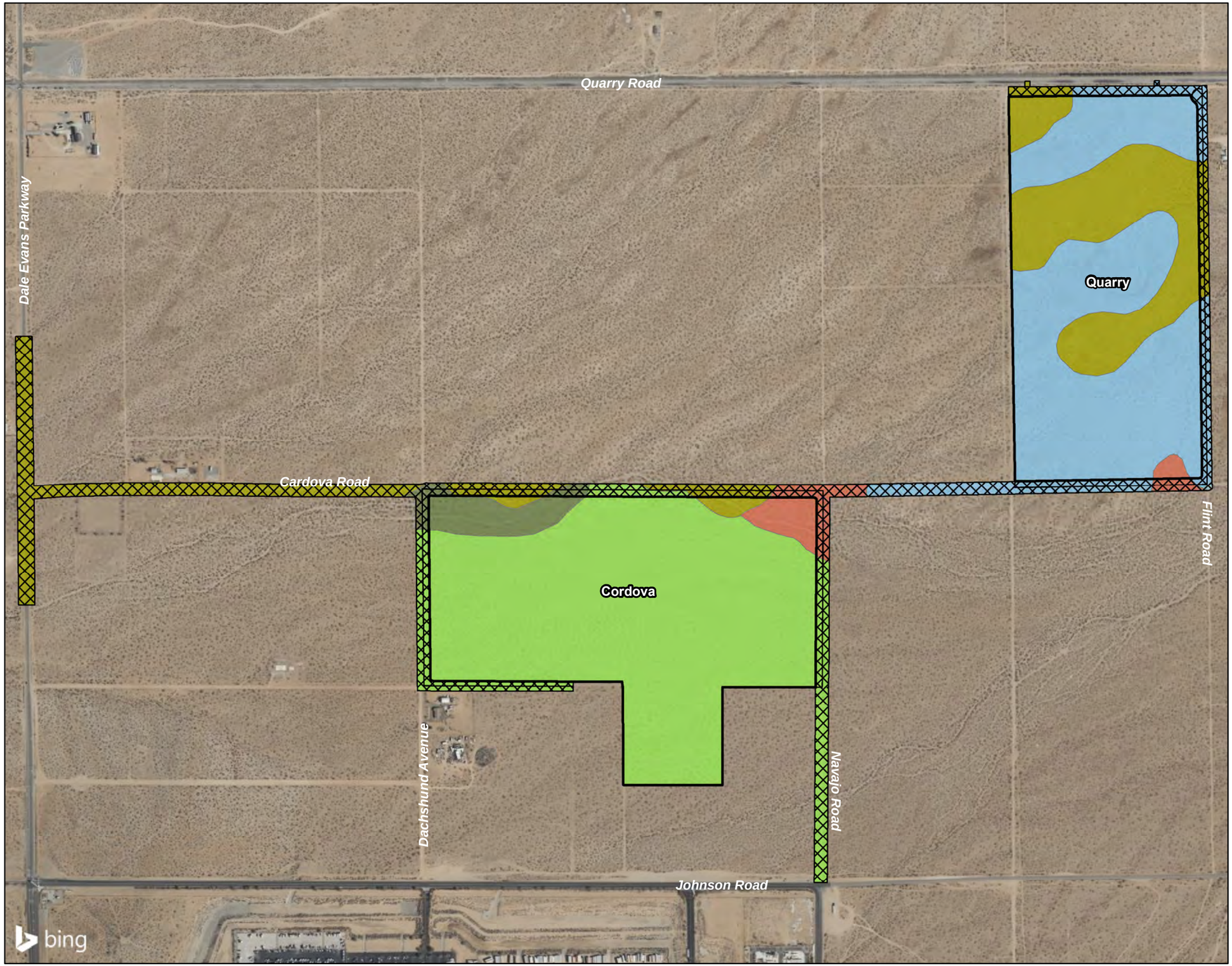

Project - Onsite

Project - Offsite

Cajon Sand,
2 to 9 Percent Slopes

Cajon-Arizo Complex,
2 to 15 Percent Slopes

Helendale-Bryman Loamy Sands,
2 to 5 Percent Slopes

Mirage-Joshua Complex,
2 to 5 Percent Slopes

Nebona-Cuddeback Complex,
2 to 9 Percent Slopes

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 8

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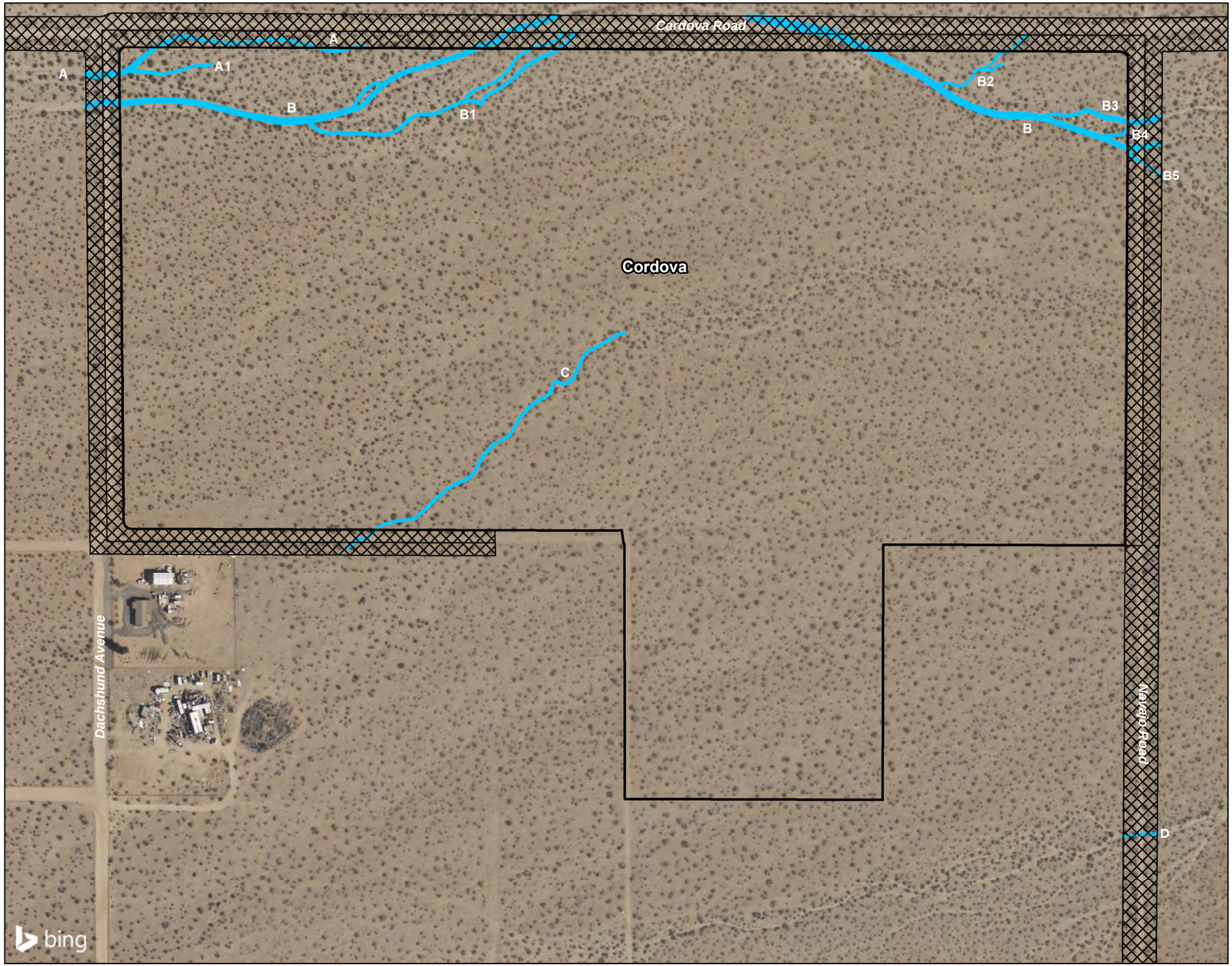
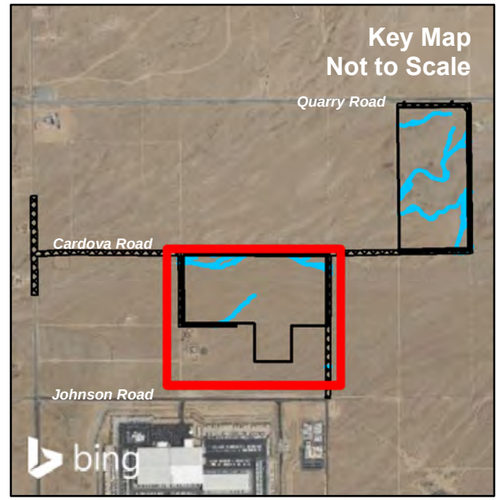




Project - Onsite

Project - Offsite

RWQCB Non-Wetland Waters

N

0 125 250 500

Feet

1 inch = 250 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

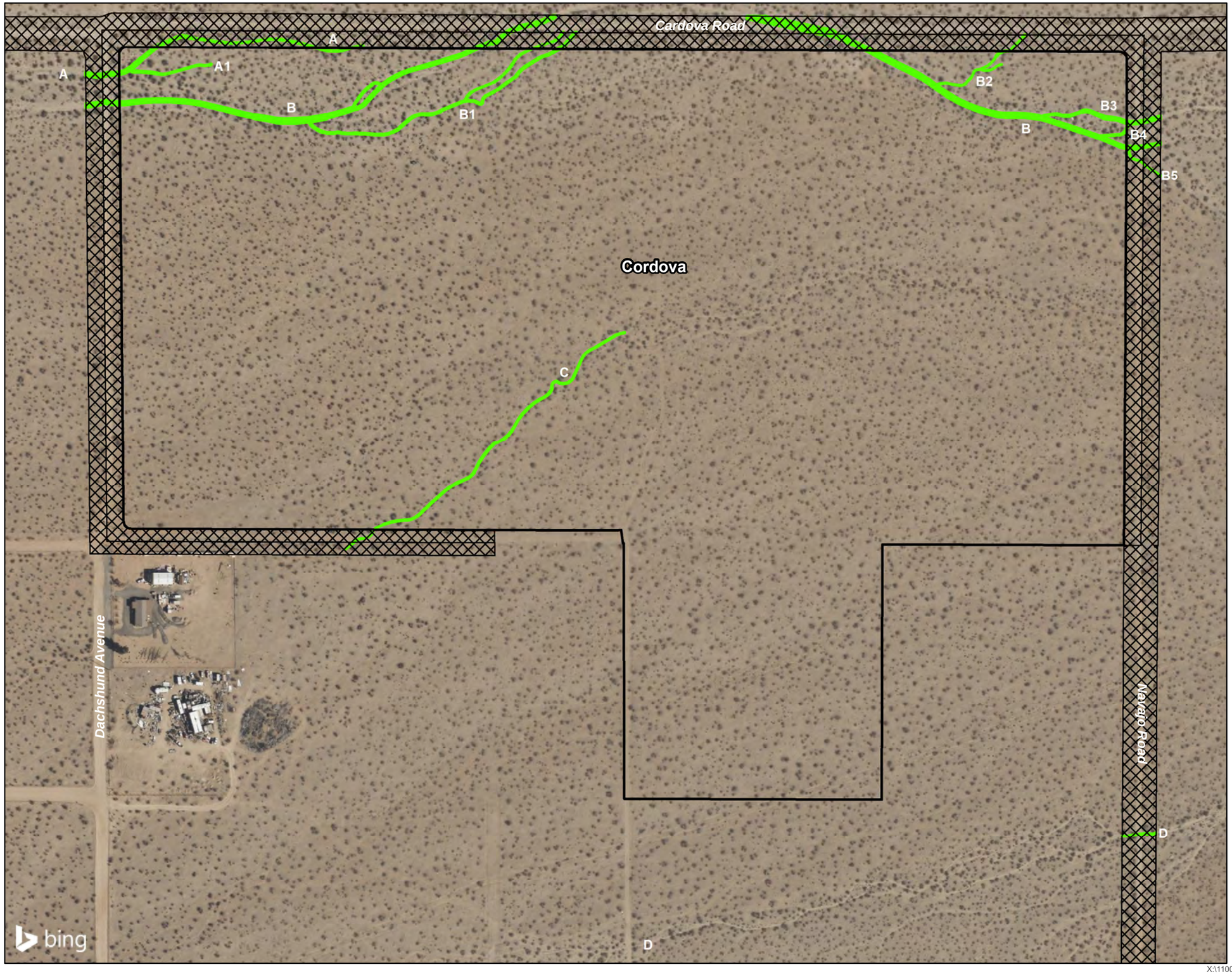
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

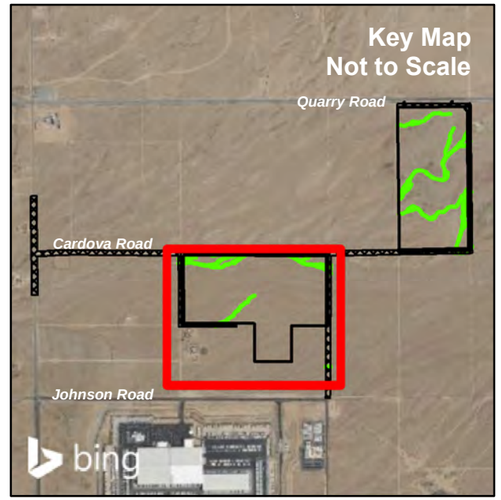
RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9A

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_RWQCB_Cordova.mxd





Project - Onsite

Project - Offsite

CDFW Non-Riparian Stream

N

0 125 250 500

Feet

1 inch = 250 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9B

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_CDFW_Cordova.mxd

Quarry Road

E

F1

F

Quarry

F2

F

Flint Road

F

H

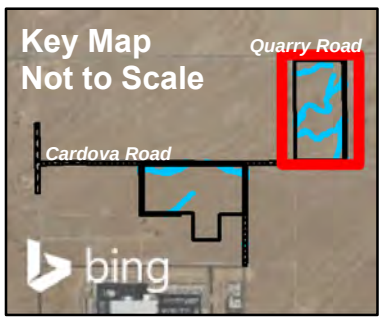
G

I

bing

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

Key Map
Not to Scale



Project - Onsite

Project - Offsite

RWQCB Non-Wetland Waters

N

0 100 200 400

Feet

1 inch = 200 feet

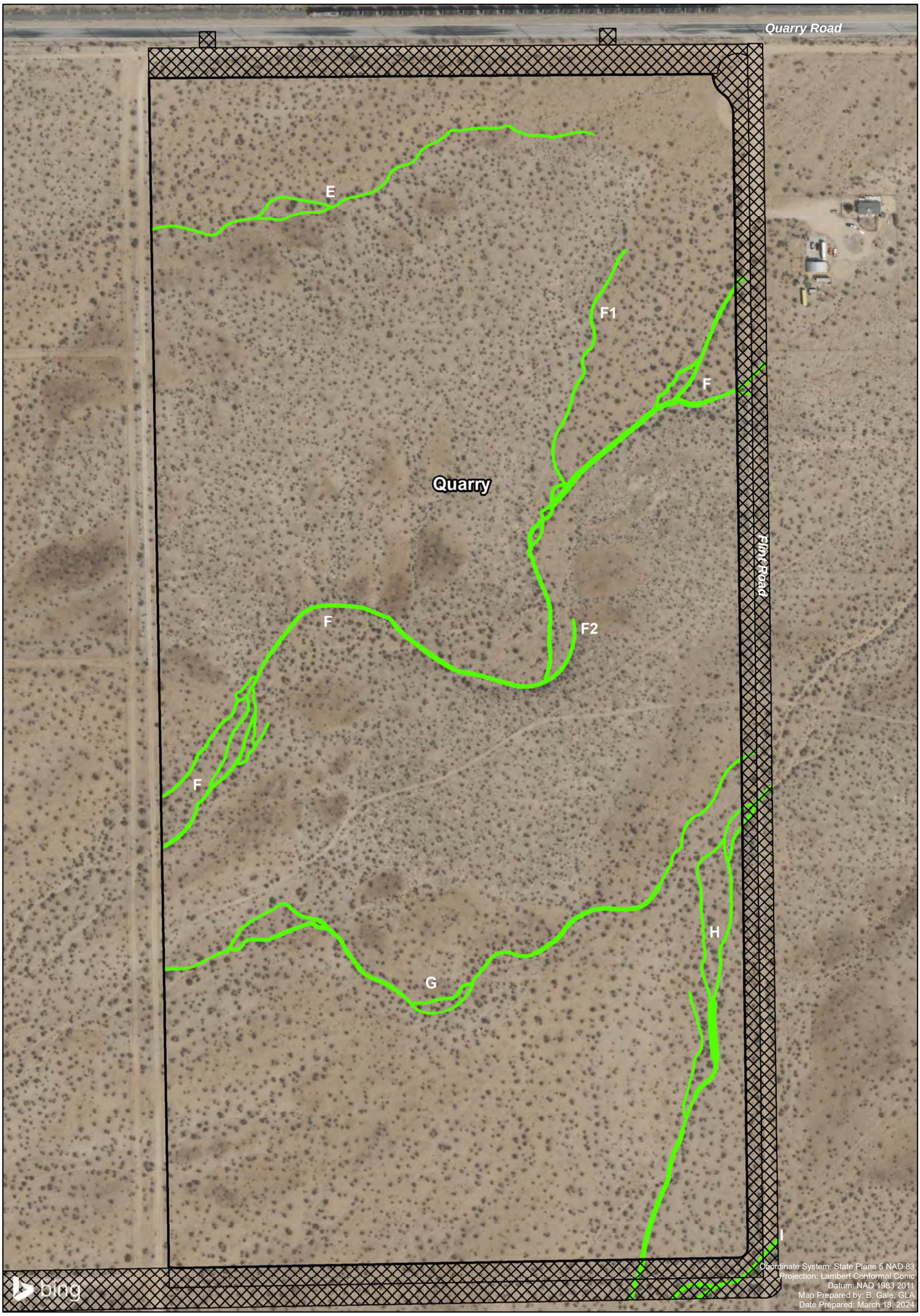
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

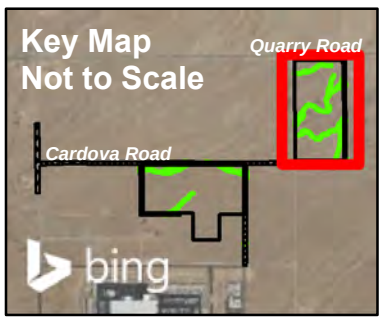
RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9C

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_RWQCB_Quarry.mxd





Project - Onsite

Project - Offsite

CDFW Non-Riparian Stream

N

0 100 200 400

Feet

1 inch = 200 feet

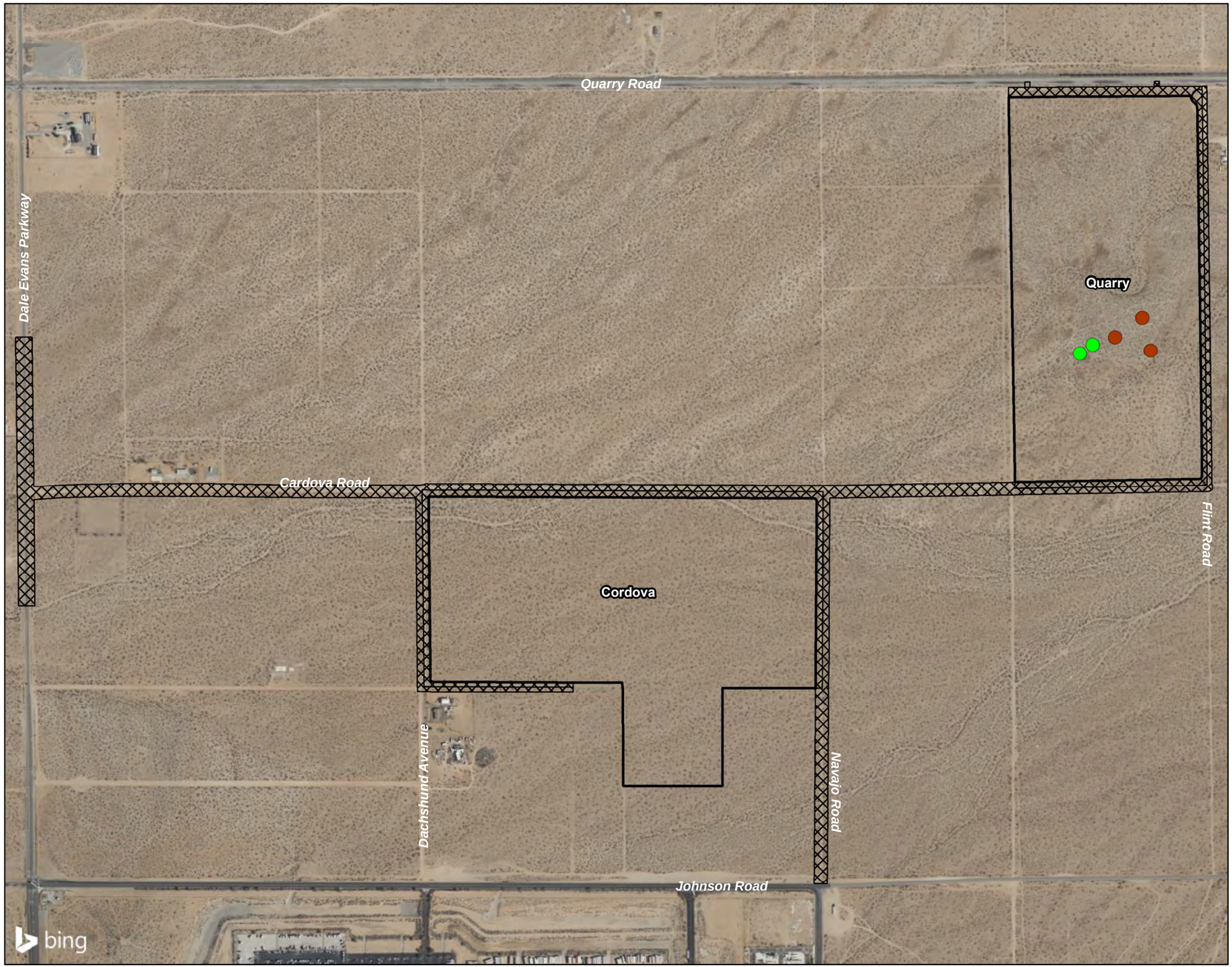
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9D

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_CDFW_Quarry.mxd



Project - Onsite

Project - Offsite

beavertail (Opuntia basilaris)

silver cholla (Cylindropuntia echinocarpa)

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

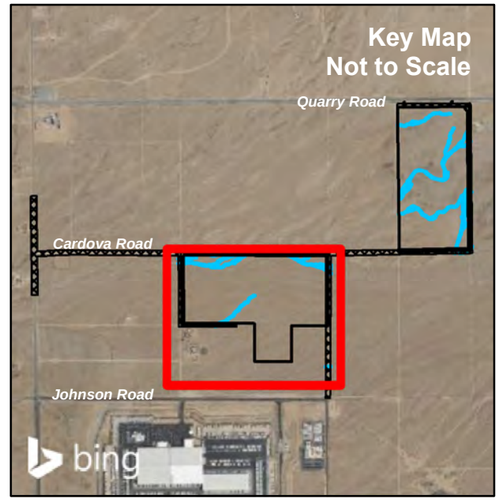
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Special Status Plants Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 10

X:\1100 AFTER THE REST\1588-02CORD\GIS\PlantsGIS\1588-02_Plants.mxd



Project Footprint - Onsite

Project Footprint - Offsite

RWQCB Non-Wetland Waters

N

0 125 250 500

Feet

1 inch = 250 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

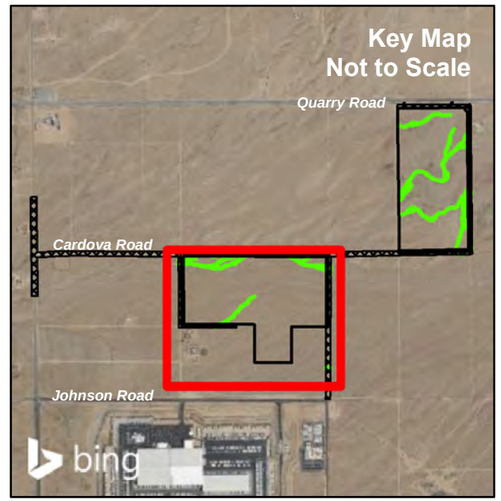
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

RWQCB Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 11A

X:\1100 AFTER THE REST\1588-02CORD\GIS\ImpactsGIS\1588-02_Impacts_RWQCB_Cordova.mxd



Project Footprint - Onsite

Project Footprint - Offsite

CDFW Non-Riparian Stream

N

0 125 250 500

Feet

1 inch = 250 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

CDFW Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 11B

X:\1100 AFTER THE REST\1588-02CORD\GIS\ImpactsGIS\1588-02_Imapcts_CDFW_Cordova.mxd

Quarry Road

Flint Road

E

F1

F

Quarry

F

F2

F

H

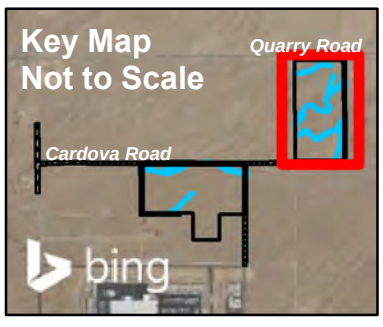
G

I

bing

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

Key Map
Not to Scale



Project Footprint - Onsite

Project Footprint - Offsite

RWQCB Non-Wetland Waters

N

0 100 200 400

Feet

1 inch = 200 feet

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

RWQCB Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 11C

X:\1100 AFTER THE REST\1588-02CORD\GIS\ImpactsGIS\1588-02_Impacts_RWQCB_Quarry.mxd

Quarry Road

E

F1

F

Quarry

Flint Road

F

F2

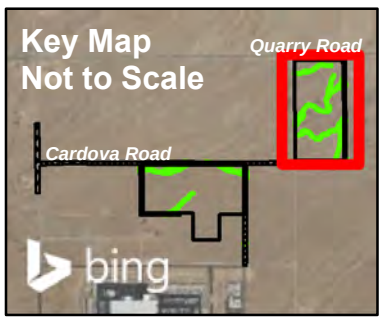
F

G

H

bing

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024



Project Footprint - Onsite

Project Footprint - Offsite

CDFW Non-Riparian Stream

N

0 100 200 400

Feet

1 inch = 200 feet

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

CDFW Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 11D

X:\1100 AFTER THE REST\1588-02CORD\GIS\ImpactsGIS\1588-02_Impacts_CDFW_Quarry.mxd

FLORAL COMPENDIUM

The floral compendium lists all species identified during floristic level/focused plant surveys conducted for the Project site. Taxonomy typically follows the Angiosperm Phylogeny Group (APG), which in some cases differs from The Jepson Manual (1993). Common plant names are taken from Hickman (1993), Munz (1974), and Roberts et al (2004) and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME
GNETALES	
EPHEDRACEAE	**Ephedra Family**
Ephedra nevadensis	Nevada ephedra
MONOCOTYLEDONS	**MONOCOTS**
POACEAE	**Grass Family**
* *Schismus arabicus*	Arabian schismus
EUDICOTYLEDONS	**EUDICOTS**
APIACEAE	**Carrot Family**
Lomatium mohavense	Mohave wild parsley
Sanicula arguta	sharp-toothed sanicle
ASTERACEAE	**Sunflower Family**
Ambrosia salsola	burrobrush
Eriophyllum wallacei	Wallace eriophyllum
Lasthenia gracilis	needle goldfields
Malacothrix coulteri	snake's head
Xylorhiza tortifolia	Mojave woodyaster
BORAGINACEAE	**Borage Family**
Amsinckia tessellata	devils lettuce
Cryptantha circumscissa	western forget me not
Pectocarya platycarpa	broad nutted comb bur
Phacelia fremontii	Fremont's phacelia
Phacelia tanacetifolia	tansy leafed phacelia
Plagiobothrys arizonicus	Arizona popcorn flower
BRASSICACEAE	**Mustard Family**
Caulanthus lasiophyllus	California mustard
Descurainia pinnata	yellow tansy mustard
Tropidocarpum gracile	slender tropidocarpum

CACTACEAE		**Cactus Family**
	Cylindropuntia echinocarpa	silver cholla
	Opuntia basilaris	beavertail
FABACEAE		**Legume Family**
	Acmispon argophyllus	silver birds foot trefoil
	Acmispon brachycarpus	short podded lotus
	Astragalus didymocarpus	dwarf white milk vetch
	Lupinus concinnus	bajada lupine
GERANIACEAE		**Geranium Family**
*	*Erodium cicutarium*	red-stemmed filaree
LOASACEAE		**Stick-Leaf Family**
	Mentzelia albicaulis	white stemmed blazing star
ONAGRACEAE		**Evening Primrose Family**
	Camissoniopsis pallida	pale yellow sun cup
PAPAVERACEAE		**Poppy Family**
	Eschscholzia glyptosperma	desert gold poppy
	Eschscholzia minutiflora	Coville's poppy
POLEMONIACEAE		**Phlox Family**
	Gilia minor	little gilia
	Gilia stellata	star gilia
POLYGONACEAE		**Buckwheat Family**
	Eriogonum inflatum	desert trumpet
	Eriogonum pusillum	yellow turban
RANUNCULACEAE		**Buttercup Family**
	Delphinium parishii	Parish's larkspur
RUTACEAE		**Rue Family**
	Thamnosma montana	turpentine broom
SOLANACEAE		**Nightshade Family**
	Lycium andersonii	Anderson's desert thorn
ZYGOPHYLLACEAE		**Caltrop Family**
	Larrea tridentata	creosote bush

APPENDIX B
FAUNAL COMPENDIUM

The faunal compendium lists species that were either observed within or adjacent to the Study Area (denoted by a '*'), or that have some potential to occur within or adjacent to the Study Area (denoted by a '+'). Taxonomy and common names are taken from the California Wildlife Habitat Relationships System (CDFW 2016); AOU (2009) and CDFW (2016) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFW (2016) for reptiles and amphibians; and CDFW (2016) for mammals.

LEPIDOPTERA	**BUTTERFLIES**
PAPILIONIDAE	**Swallowtails**
Papilio zelicaon	Anise swallowtail
NYMPHALIDAE	**Brush-Footed Butterflies**
Vanessa cardui	painted lady
REPTILIA	**REPTILES**
COLUBRIDAE	**Colubrid Snakes**
Coluber flagellum	red racer
TEIIDAE	**Whiptails And Relatives**
Aspidoscelis tigris	great basin whiptail
AVES	**BIRDS**
CATHARTIDAE	**New World Vultures**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**Hawks And Old World Vultures**
Buteo jamaicensis	red-tailed hawk
FALCONIDAE	**Caracaras And Falcons**
Falco sparverius	American kestrel
CHARADRIIDAE	**Plovers And Relatives**
Charadrius vociferus	killdeer
COLUMBIDAE	**Pigeons And doves**
* *Columba livia*	rock pigeon
Zenaida macroura	mourning dove
Columbina talpacoti	ruddy-ground-dove

CUCULIDAE	**Cuckoos, Roadrunners, and Anis**
Geococcyx californianus	greater roadrunner
APODIDAE	**Swifts**
Aeronautes saxatilis	white-throated swift
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
TYRANNIDAE	**Tyrant Flycatchers**
Sayornis nigricans	black phoebe
Tyrannus verticalis	western kingbird
Tyrannus vociferans	Cassin's kingbird
CORVIDAE	**Crows And Jays**
Corvus brachyrhynchos	American crow
Corvus corax	common raven
ALAUDIDAE	**Larks**
Eremophila alpestris	horned lark
REMIZIDAE	**Verdin**
Auriparus flaviceps	verdin
PARULIDAE	**Wood Warblers And Relatives**
Dendroica coronata	yellow-rumped warbler
EMBERIZIDAE	**Emberizids**
Amphispiza bilineata	black-throated sparrow
Melospiza melodia	song sparrow
Spizella breweri	Brewer's sparrow
Zonotrichia leucophrys	white-crowned sparrow
FRINGILLIDAE	**Fringilline And Cardueline Finches and Allies**
Spinus psaltria	lesser goldfinch
MAMMALIA	**MAMMALS**
CANIDAE	**Canine**
Vulpes macrotis arsipus	desert kit fox
LEPORIDAE	**Rabbits And Hares**
Lepus sp.	jackrabbit

SCIURIDAE **Squirrels, Chipmunks, And Marmots**

Ammospermophilus leucurus white-tailed antelope squirrel

Taxonomy and nomenclature are based on the following.

Butterflies: Taxonomy and phylogeny is based on Jonathan Pelham. 2008. Catalogue of the Butterflies of the United States and Canada. Journal of Research on the Lepidoptera 40: xiv + 658 pp.

Amphibians and reptiles: Crother, B.I. et al.(2000. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. *Herpetological Circular* 29; and 2003 update.) for species taxonomy and nomenclature; Stebbins, R.C. (2003. A Field Guide to Western Reptiles and Amphibians, third edition, Houghton Mifflin, Boston.) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998. The A.O.U. Checklist of North American Birds, seventh edition. American Ornithologists' Union, Washington D.C.; and 2000, 2002, 2003, and 2004 supplements.).

Mammals: Grenfell, W.E., Parisi, M.D. and McGriff, D. (2003. Complete list of amphibians, reptiles, birds and mammals in California. California Department of Fish and Game. http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf).

The faunal compendium lists species that were either observed within or adjacent to the Study Area (denoted by a '*'), or that have some potential to occur within or adjacent to the Study Area (denoted by a '+'). Taxonomy and common names are taken from the California Wildlife Habitat Relationships System (CDFG 2003); AOU (1998) and CDFG (1990) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFG (1990) for reptiles and amphibians; and CDFG (1990) for mammals.

Special status species are denoted by a !

Date of survey: 13, March, 2023 (day, month, year) Survey biologist(s): David Smith and Joseph Vu (name, email, and phone number)

Site description: Cordova Site (project name and size; general location)

County: San Bernardino Quad: Apple Valley North Location: 34.605704, -117.192659 (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 86 acres Transect #: ____ Transect length: _____

GPS Start-point: 34.608137, -117.198015 (easting, northing, elevation in meters) Start time: 0930 am/pm

GPS End-point: 34.602839, -117.191553 (easting, northing, elevation in meters) End time: 1245 am/pm

Start Temp: 12.78 ºC (55 F) End Temp: 15.55 ºC (60 F)

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL ≥180 mm? (*Yes, No or Unknown*)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1				
2				
3				
4				
5				
6				
7				
8				

No signs of live or dead tortoises, signs of tortoises, or active tortoise burrows.

Date of survey: 17, March, 2023 (day, month, year) Survey biologist(s): David Smith and Joseph Vu (name, email, and phone number)

Site description: Pawnee site (project name and size; general location)

County: San Bernardino Quad: Apple Valley north Location: 34.612019, -117.182341 (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 77 acres Transect #: ____ Transect length: _____

GPS Start-point: 34.615690, -117.180496 (easting, northing, elevation in meters) Start time: 0930 am/pm

GPS End-point: 34.608157, -117.184940 (easting, northing, elevation in meters) End time: 1155 am/pm

Start Temp: 7.77 ºC (46 F) End Temp: 14.44 ºC (58 F)

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL ≥180 mm? (*Yes, No or Unknown*)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1				
2				
3				
4				
5				
6				
7				
8				

No signs of live or dead tortoises, signs of tortoises, or active tortoise burrows.

August 4, 2023

Joseph Vu
Glenn Lukos Associates, Inc.
1940 E Deere Avenue, Suite 250
Santa Ana, CA 92705
Via email: jvu@wetlandpermitting.com

Subject: Results of Mohave Ground Squirrel Protocol Surveys for the Cordova Industrial Complex Project, Apple Valley, San Bernardino County, California

Dear Mr. Vu:

The purpose of this report is to document the results of a California Department of Fish and Wildlife (CDFW) protocol survey for Mohave ground squirrel (*Xerospermophilus mohavensis*; MGS) conducted by Dipodomys Ecological Consulting LLC (DEC) for the Cordova Industrial Complex Project (project). Presented in this report are a description of the project, project location, the biological setting of the site, MGS natural history, survey methodology, results of trapping efforts for MGS, and conclusions.

Project Description and Location

Covington Group proposes to develop a speculative industrial distribution warehouse complex on a 93-acre parcel located within the Town of Apple Valley in San Bernardino County, California. The parcel is bordered by Cardova Road on the north, Johnson Road on the south, Dachshund Avenue on the west, and Navajo Road on the east (**Figures 1 and 2**). The parcel is surrounded by undeveloped desert land consisting of disturbed creosote bush scrub and sparse residential and industrial development. The primary source of disturbance is past and current off highway vehicle (OHV) activity. Two major distribution centers are located immediately south of the parcel, across Johnson Road. The project sites can be found on U.S. Geological Survey (USGS) 7.5-minute Apple Valley North topographic quadrangle map within Section 16, Township 6 North and Range 3 West, as shown in **Figure 1**, Project Location.

Biological Setting

The one vegetation community within the project site is creosote bush scrub (CDFW CA Code 33.010.00). Dominant plants present include creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), Cooper's boxthorn (*Lycium cooperi*), cottonthorn (*Tetradymia stenolepis*), Nevada joint-fir (*Ephedra nevadensis*), bladdersage (*Scutellaria mexicana*) turpentine broom (*Thamnosa montana*), pencil cactus (*Cylindropuntia ramosissima*), and silver cholla (*Cylindropuntia echinocarpa*). Herbaceous plants present onsite include fiddleneck (*Amsinckia tessellata*), red-stemmed filaree (*Erodium cicutarium*), rattlesnake sandmat (*Euphorbia albomarginata*), goldfields (*Lasthenia californica*), tidytips (*Layia platyglossa*), desert dandelion (*Malacothrix glabrata*), common phacelia (*Phacelia distans*), thistle sage (*Salvia carduacea*) and desert mallow (*Sphaeralcea ambigua*). Soils consist of Helendale-Bryman Loamy

Sands, Cajon sand, Cajon-Arizo complex and Nebona-Cuddeback complex (WebSoil 2023). The project site is located at an elevation of approximately 2,982 feet above mean sea level (amsl).

Mohave Ground Squirrel Natural History

Mohave ground squirrels (*Xerospermophilus mohavensis*) are medium-sized (210-230mm, 85-130g), diurnal squirrels. Their dorsal pelage is light gray to cinnamon-brown, while their ventral side is creamy. Unlike round-tailed ground squirrels (*Xerospermophilus tereticaudus*), which occur sympatrically in the southeast portion of their range, MGS have a short, flat tail that is light-colored on its underside, and have brown cheeks instead of white.

MGS inhabit a small geographic area in the western Mojave Desert. This species ranges from Palmdale in the southwest, the Lucerne Valley in the southeast, Olancha in the northwest, and the Avawatz Mountains in the northeast (Gustafson 1993). Although occurrences in the southern portion of their range are rare, occurrences have been documented on the California Natural Diversity Database (CNDDB) as recently as 2011 (Figure 3). Vegetation communities (as classified by the California Native Plant Society) typically associated with MGS include Mojave Creosote Scrub, Shadscale Scrub, Desert Saltbush Scrub, Desert Sink Scrub, and Joshua Tree Woodland. MGS feed primarily on the leaves and seeds of forbs and shrubs. In the northern portion of their range, MGS have been found to feed on spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*) and saltbush (*Atriplex* sp.), especially in early spring when forbs are unavailable, during summer when forbs have dried out, and during drought conditions (Leitner and Leitner 1998). Recent studies have also indicated that MGS feed on the following forbs and shrubs: freckled milkvetch (*Astragalus lentiginosus*), Mojave lupine (*Lupinus odoratus*), buckwheat (*Eriogonum* sp.), white mallow (*Eremalche exilis*), fiddleneck, Russian thistle (*Salsola tragus*), desert pincushion (*Chaenactis* sp.), Cryptantha (*Cryptantha pterocarya*), Coreopsis (*Leptosyne bigelovii*), Valley lessingia (*Lessingia glandulifera*), desert dandelion (*Malacothrix glabrata*), Phacelia (*Phacelia* sp.), wire lettuce (*Stephanomeria* sp.) Anderson's desert thorn (*Lycium andersonii*), spiny horsebrush (*Tetradimya spinosa*), and Joshua tree (Leitner and Leitner 2017).

MGS have adapted to live in hot desert environments by limiting their activity aboveground through estivation and hibernation. The timing of emergence from hibernation varies by location: in the northern portion of their range male MGS emerge mid-March (Leitner and Leitner 1998); however, in the southern portion of their range, MGS may emerge as early as mid-January (Recht 1977). Throughout their active period, MGS store fat in preparation for estivation, which typically occurs between July and September, but may occur as early as April or May during drought conditions (Leitner et al. 1995). MGS reproduction is dependent on fall and winter rains and individuals may forgo breeding entirely if low rainfall (<80mm) results in reduced herbaceous plants (Leitner and Leitner 2017).

Throughout the range of MGS, they may co-occur with white-tailed antelope ground squirrels (*Ammospermophilus leucurus*), round-tailed ground squirrels, and California ground squirrels (*Otospermophilus beecheyi*). MGS may be misidentified with round-tailed ground squirrels, but this is unlikely to occur with antelope grounds squirrels, because the latter species has white dorsal stripes that makes them resemble a chipmunk more than an MGS. California ground squirrels are also notably larger and are not typically confused with MGS.

MGS are classified as threatened and are protected under the California Endangered Species Act. Primary threats to MGS include limited distribution, low abundance and habitat loss from by converting suitable habitat to urban, suburban, agricultural and military land uses (Gustafson 1993, Leitner and Leitner 2017).

Methods

Mohave ground squirrel (MGS) Protocol surveys for the Cordova Industrial Complex Project MGS were conducted in accordance with the 2010 CDFW MGS Survey Guidelines and consisted of an initial visual survey followed by live trapping and camera trapping efforts. Details for each survey type are described below.

Visual Survey

An initial review of the California Natural Diversity Database (CNDDB) was conducted prior to the visual assessment to determine the historical recorded occurrences of MGS near the project site (**Figure 3**). The visual survey was conducted by Principal Investigator Karla Flores (MOU and Scientific Collection Permit SC-10572) and Independent Researcher Karl Fairchild (SCP S-182820007-18333-001) on March 14, 2023. The visual survey consisted of driving and walking throughout the project site to identify suitable habitat for MGS. This included identifying plants known to provide forage material for MGS such as spiny hopsage, winterfat, Cooper's boxthorn, Anderson's desert thorn, and Joshua tree (Leitner 2022). Areas supporting suitable habitat for MGS where these plants are concentrated were recorded on an aerial map. Suitable soil types for burrowing and burrow densities were also noted.

Live Trapping

Live trapping surveys were conducted by Karla Flores, and consisted of setting up one 100-trap 10x10 survey grid (315m x 315m) within the project parcel. The grid encompassed wash and upland habitat types. Coordinate locations for the northern and southern grids are listed in **Table 1**. Traps in the grid were spaced 35 meters apart and utilized XLK Sherman live-traps (3x3.75x12") with accompanying A-frame cardboard shade covers staked to the ground with metal tent stakes. All traps were baited with 4-way livestock feed and peanut butter powder and were opened within one hour of sunrise and were checked no more than every four hours. All traps were closed within hour of sunset. Trapping was conducted when temperatures were between 50 and 90 degrees Fahrenheit, and inclement conditions (rain, thunderstorms) were not present. All animals captured were released at their capture location, and the following information recorded for each capture: species, weight, age, sex, and reproductive condition. Live-trapping surveys were conducted for a period of five days in each of the three survey windows established by the MGS survey guidelines (1st: March 15-April 3; 2nd May 1-31;3rd June 15-July 15). Details for each survey period are presented in **Table 2.** MGS Survey and Trapping Forms, including weather details, are presented in **Attachment A** and **Attachment B**.

TABLE 1
UTM COORDINATES FOR CORNERS OF LIVE TRAPPING GRID

Corner	Zone	Easting	Northing
SW	11	482055	3829290
NW	11	482055	3829605
SE	11	482370	3829290
NE	11	482370	3829605

*Datum: WGS 1984

TABLE 2
MOHAVE GROUND SQUIRREL SURVEY DATE AND TYPE

Session	Date	Survey Type
1	April 15-19, 2023	LT/CT
2	May 12-16, 2023	LT/CT
3	June 28- July2, 2023	LT/CT

LT: Live Trapping CT: Camera Trapping

Camera Trapping

Camera trapping surveys were utilized to supplement live-trapping efforts and consisted of setting up five camera trapping stations throughout the project site (**Figure 2**). Each camera trap station consisted of a Bushnell Core Low Glow Trail Camera (Model 1199932CB) secured to a 36-inch U-post facing a bait station. The bait station consisted of a feeding tube filled with 4-way livestock feed staked to the ground with a 12-inch railroad spike. Cameras operated 24 hours a day, concurrent with live-trapping surveys, and followed the set-up specifications described in Delaney et al. 2017. Coordinate locations for each camera trap station are listed below in **Table 3**.

Photos from the camera trap stations were downloaded and reviewed by the Principal Investigator after every five-day trapping session. A list of species detected at the camera trap stations is included in **Table 5**.

TABLE 3
COORDINATE LOCATIONS FOR CAMERA TRAP STATIONS

Camera	Zone	Easting	Northing
1	11	481893	3829582
2	11	482530	3829573
3	11	482050	3829263
4	11	482588	3829326
5	11	482338	3829099

*Datum: WGS 1984

Results

Visual Survey

Based on the habitat data collected during the visual survey, low-quality MGS habitat is present on the project site. Primary MGS food plants such as winterfat and spiny hopsage are not present onsite. However, other plants associated with MGS in microhistology and metabarcoding studies (Leitner 2022) are present onsite, these include: creosote bush Cooper's boxthorn , silver cholla, Joshua tree , fiddleneck, red-stemmed filaree, and desert dandelion. Visual observations of burrows and burrow complexes showed that soil onsite is suitable for burrowing.

Live Trapping

No Mohave ground squirrels were captured during the three live-trapping survey periods. Live-trapping captures consisted entirely of non-target species including white-tailed antelope ground squirrel, California ground squirrel, and Great Basin whiptail (*Aspidoscelis tigris*) (**Table 4; Figure 4**).

TABLE 4
RESULTS OF MOHAVE GROUND SQUIRREL PROTOCOL SURVEYS

Common name	Scientific name	Session			Total
		1	**2**	**3**	
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*	11	19	22	52
California ground squirrel	*Otospermophilus beecheyi*	0	0	1	1
Great Basin Whiptail	*Aspidoscelis tigris*	7	1	0	8
	Total	18	20	23	**61**

Camera Trapping

No Mohave ground squirrels were detected in the images collected during the camera trapping surveys. Species observed utilizing the camera trap stations included: white-tailed antelope ground squirrel, spiny pocket mouse sp., kangaroo rat sp., horned lark, long-nosed leopard lizard, black-tailed jackrabbit, and deer mouse.

TABLE 5
RESULTS OF MOHAVE GROUND SQUIRREL CAMERA TRAPPING

Common name	Scientific name
white-tailed antelope ground squirrel	*Ammospermophilus leucurus*
spiny pocket mouse	*Chaetodipus sp.*
kangaroo rat	*Dipodomys sp.*
horned lark	*Eremophila alpestris*
long-nosed leopard lizard	*Gambelia wislizenii*
black-tailed jackrabbit	*Lepus californicus*
deer mouse	*Peromyscus maniculatus*

Conclusions

The Cordova Industrial Complex Project is located in the southern portion of the MGS range where MGS occurrences are rare, and population densities have historically been low. Additionally, the site is located outside of the MGS core population areas, peripheral population areas and linkage areas described in the 2019 CDFW MGS Conservation Strategy. California Natural Diversity Database (CNDDB) occurrence details for MGS in the vicinity of the project site (**Figure 3**), indicate that MGS are likely extirpated from the greater Sidewinder Valley-Apple Valley area. The nearest MGS occurrence to the project site, recorded 6 miles southwest from the project site in 1977 west of Interstate 15 (I-15) which may act as a

barrier to MGS dispersal. The most recent occurrences of MGS have been recorded in 2007 west of the Oro Grande/Mojave River approximately 9.8 miles northwest from the project site.

Although suitable habitat is present within the project, no MGS were captured during the live-trapping or camera trapping surveys. Furthermore, the distance from core population areas and significant barriers to dispersal between the project site and documented recent occurrences make it unlikely that colonization from core MGS populations will occur in the near future. Based on the results of this survey, the CDFW survey guidelines indicate that the department will stipulate that no MGS occur on the project site. This stipulation will expire one year from the last day of trapping, July 2, 2023.

I hereby certify that the information in this report is true, and that it conforms to accepted biological standards. Please feel free to contact Karla Flores by phone at (619) 972-4319 or by email at kflores@dipodomysecological.com or Karl Fairchild by phone at (541) 609-1038 or by email at kfairchild@dipodomysecological.com, with any questions regarding this report.

Sincerely,

Karla L. Flores
Principal Investigator

Karl Fairchild
Principal Investigator

Figures and Attachments
Figure 1-Project Location
Figure 2-Survey Area
Figure 3- Historical MGS Occurrences
Figure 4- Results

Attachment A-CDFW Mohave Ground Squirrel Survey and Trapping Form(s)
Attachment B-Weather Details
Attachment C-Species Compendium
Attachment D-Representative Photographs

References

California Department of Fish and Game. Mohave Ground Squirrel Survey Guidelines. July 2010.

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Leitner, B. 2022. Primary Food Items Consumed by Mohave Ground Squirrels based on visual observations of MGS and microhistology and metabarcoding of fecal pellets from 1988-2021.

Recht, M.A. 1977. The biology of the Mohave ground squirrel, *Spermophilus mohavensis*. Ph.D. Dissertation, University of California, Los Angeles. 117 pp.

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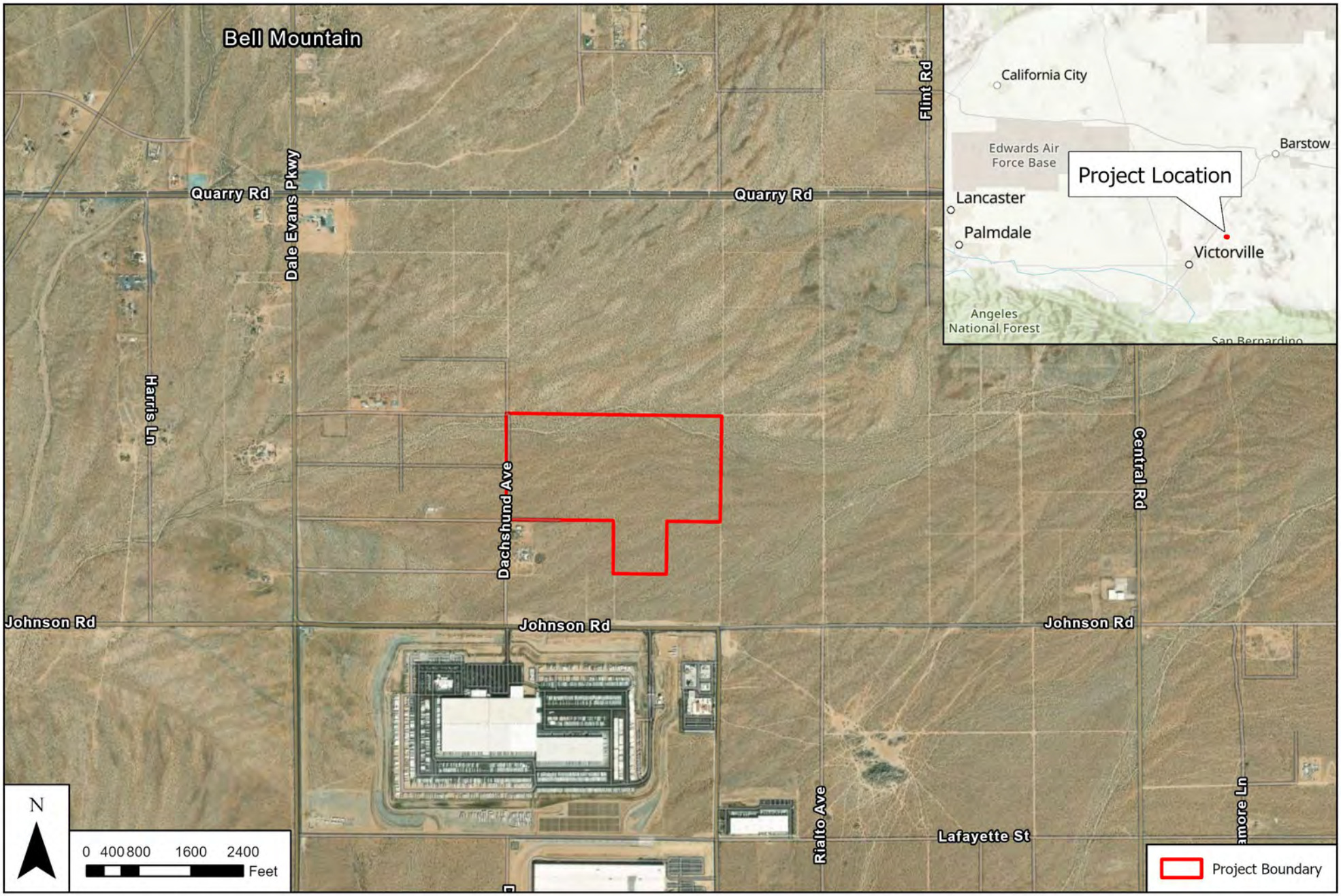

SOURCE: ESRI

Cordova Industrial Complex Project

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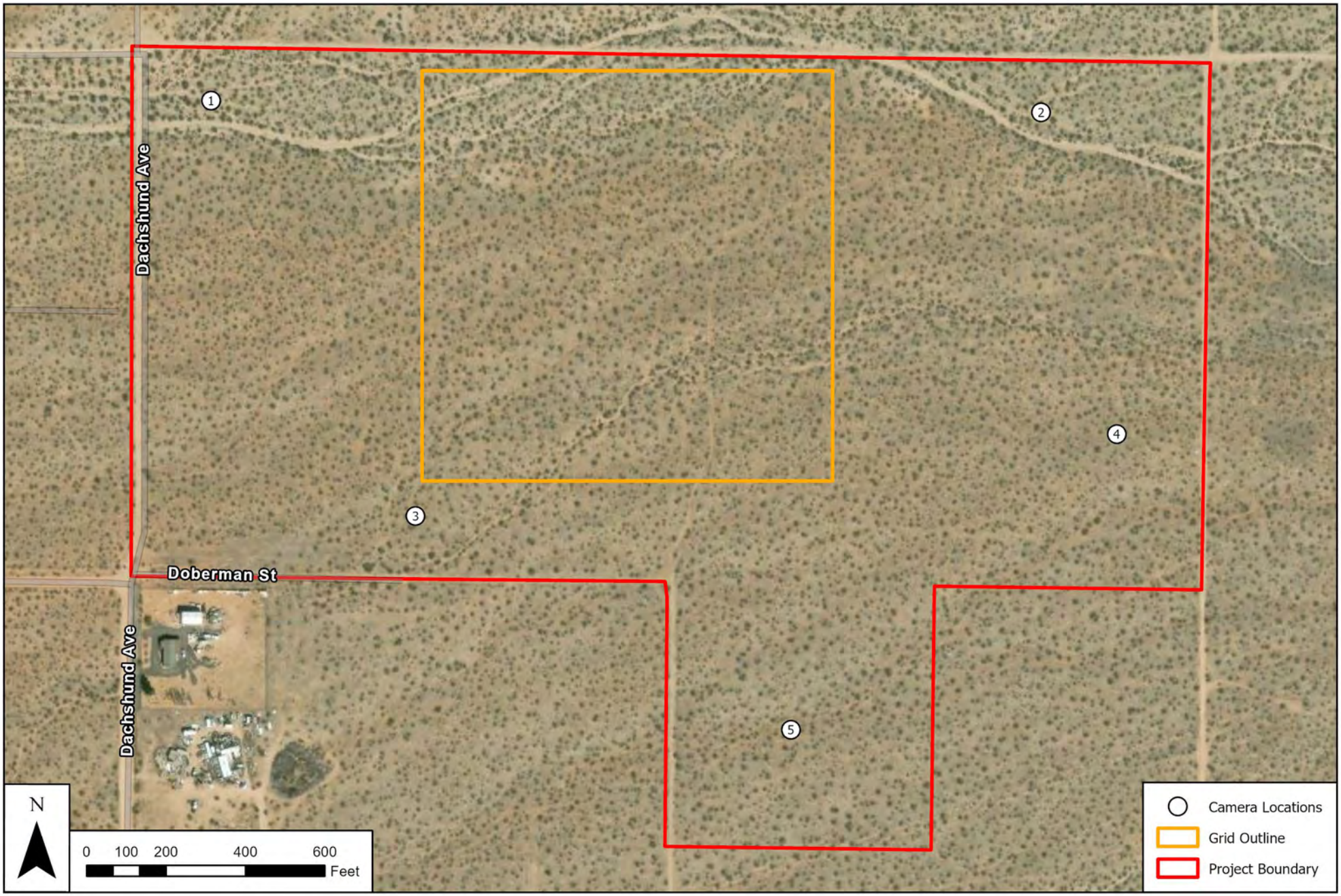
Figure 1

Project Location



SOURCE: ESRI

Cordova Industrial Complex Project

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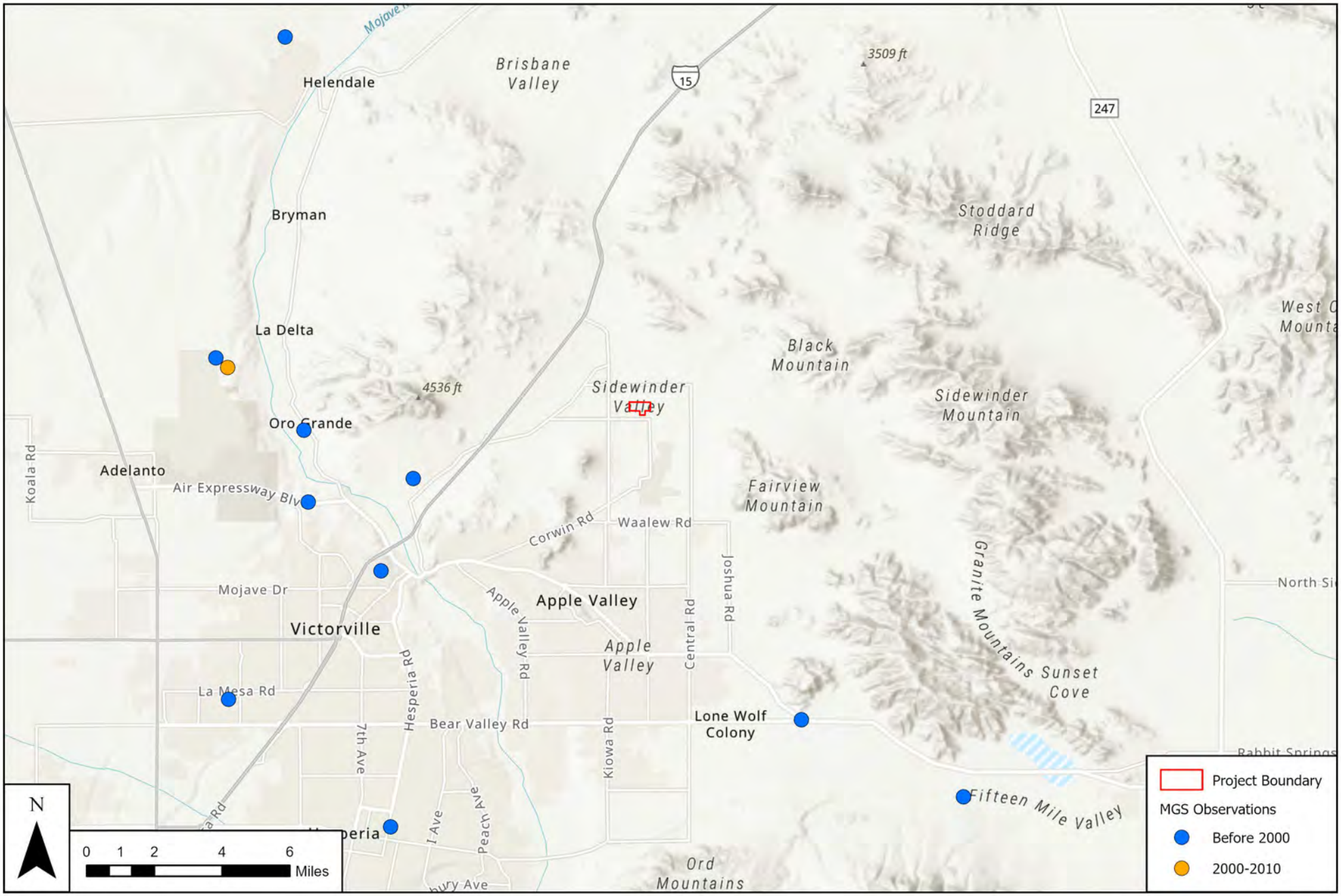
Figure 2

Survey Area



SOURCE: ESRI

Cordova Industrial Complex Project

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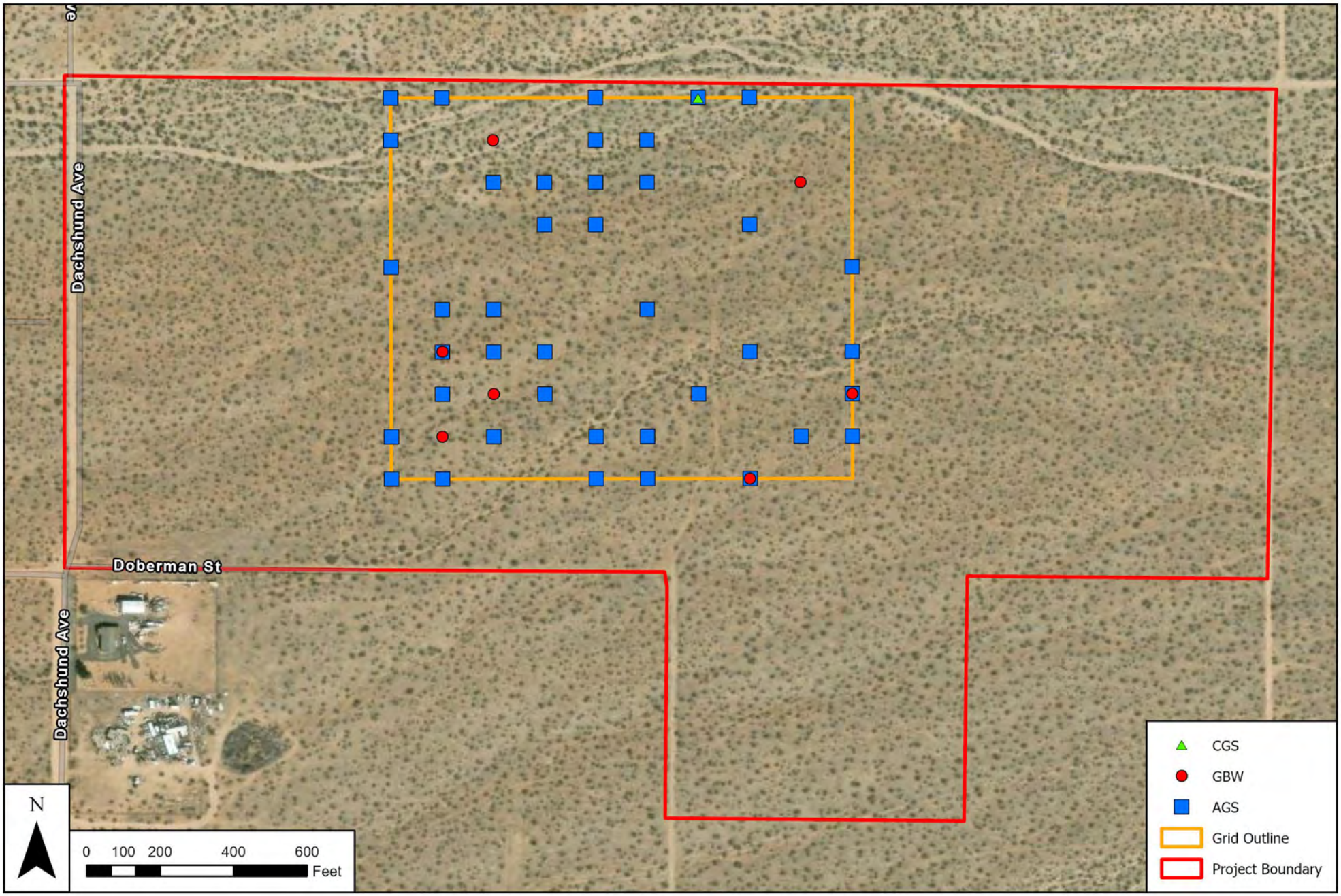
Figure 3

Historical MGS Occurrences



SOURCE: ESRI

Cordova Industrial Complex Project

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Figure 4

Trapping Results

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Attachment A

Mohave Ground Squirrel (MGS) Survey and Trapping Form (photocopy as needed)

PART I - PROJECT INFORMATION (use a separate form for each sampling grid)

Project name: Cordova Industrial Complex Property owner: Private

Location: Township 06N; Range 03W; Section 16; ¼ Section _____

Quad map/series: Apple Valley North UTM coordinates: SW 482055 3829290 NW 482055 3829605 SE 482370 3829290 NE 482370 3829605
GPS coordinates of trapping-grid corners

Acreage of Project Site: 93 acres Acreage of potential MGS habitat on site: 93 acres

Total acreage visually surveyed on project site: 93 acres Date(s): March 14, 2023
visual surveys

Visual surveys conducted by: Karla Flores and Karl Fairchild
names of all persons by date (use back of form, if needed)

Total acres trapped: 93 acres Number of sampling grids: 1

Trapping conducted by: Karla Flores and Karl Fairchild
names of all persons by sampling term and sampling grid (use back of form, if needed)

Dates of sampling term(s): FIRST April 15-19, 2023 SECOND May 12-16, 2023 if required THIRD June 28-July 2, 2023 if required

PART II - GENERAL HABITAT DESCRIPTION (use back of form, if needed)

Vegetation: dominant perennials: Creosote bush
other perennials: Cooper's boxthorn, Joshua tree, cottonthorn, silver cholla, pencil cholla, turpentine broom, bladdersage,
dominant annuals: fiddleneck, red-stemmed filaree, common phacelia, goldfields, desert dandelion
other annuals: desert mallow, tidy tips, rattlesnake weed, thistle sage

Land forms (mesa, bajada, wash): desert plain

Soils description: Helendale-Bryman Loamy sands; Cajon Sand; Cajon-Arizo Complex; Nebona-Cuddeback Complex

Elevation: 2,982 feet Slope: 2-15%

PART III - WEATHER (report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made; use a separate blank sheet for each day)

Temperature: AIR minimum and maximum; SOIL minimum and maximum; Cloud Cover: % in AM and % in PM; Wind Speed: in AM and in PM

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Attachment B

Attachment B: Weather details for California Department of Fish and Wildlife (CDFW) Mohave ground squirrel (*Xerospermophilus mohavensis*) protocol surveys. Details include date, survey (1-3), air temperature (min-max ° Fahrenheit), soil temperature (min-max ° Fahrenheit), wind speed (mph) and percent cloud cover (%).

Date		Air Temperature (°F)		Soil temperature (°F)		Wind (mph)		Cloud Cover (%)	
		Min	Max	Min	Max	Start	End	Start	End
4/15/2023	1	57.2	82.2	53.1	66.8	1.7	9.3	0	0
4/16/2023	1	64	78.4	59.1	77.4	1.5	11.4	5	15
4/17/2023	1	63.8	78.8	57.6	71.3	2.5	12.8	0	0
4/18/2023	1	54.8	73.6	61.3	73.4	5.6	11.3	0	80
4/19/2023	1	65.8	72.8	70.6	72.5	2.6	2.3	0	10
5/12/2023	2	54.5	88.6	63.3	92	1.9	7.4	0	1
5/13/2023	2	60.5	89.6	66.3	70.1	1.3	2.8	0	1
5/14/2023	2	63.7	90	70.9	72.7	1.8	7.5	0	5
5/15/2023	2	62.6	90	65.9	72.8	1.4	4.4	3	25
5/16/2023	2	63	90	67.3	71.2	1	3.2	30	15
6/28/2023	3	61.1	82.3	70.7	78.3	1.1	3.5	0	0
6/29/2023	3	65.5	88.3	77.9	79.7	1.1	2	0	0
6/30/2023	3	71.5	89.3	79.7	81.9	2.2	1.7	0	0
7/1/2023	3	73.8	88.6	77.9	84.2	1.5	1.7	0	0
7/2/2023	3	74.7	90	80.5	85.7	1.5	6.9	0	0

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Attachment C

Common name	Scientific name
Plants-Shrubs	
pencil cholla	*Cylindropuntia acanthocarpa*
silver cholla	*Cylindropuntia echinocarpa*
Nevada jointfir	*Ephedra nevadensis*
Creosote bush	*Larrea tridentata*
cooper's boxthorn	*Lycium cooperi*
bladdersage	*Scutellaria mexicana*
cottonthorn	*Tetradymia stenolepis*
turpentine broom	*Thamnosma montana*
Joshua tree	*Yucca brevifolia*
Plants-Herbaceous	
fiddleneck	*Amsinckia tessellata*
red-stemmed filaree	*Erodium cicutarium*
rattlesnake sandmat	*Euphorbia albomarginata*
goldfields	*Lasthenia californica*
tidy tips	*Layia platyglossa*
desert dandelion	*Malacothrix glabrata*
common phacelia	*Phacelia distans*
thistle sage	*Salvia carduacea*
desert mallow	*Sphaeralcea ambigua*
Birds	
Bell's sparrow	*Artemisiospiza belli*
verdin	*Auriparus flaviceps*
Wilson's warbler	*Cardellina pusilla*
Common raven	*Corvus corax*
Horned lark	*Eremophila alpestris*
rock wren	*Salpinctes obsoletus*
mourning dove	*Zenaida macroura*
white-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*
spiny pocket mouse	*Chaetodipus* sp.
kangaroo rat	*Dipodomys* sp.
black-tailed jackrabbit	*Lepus californicus*
California ground squirrel	*Otospermophilus beecheyi*
deer mouse	*Peromyscus maniculatus*
Reptiles	
Great Basin whiptail	*Aspidoscelis tigris tigris*
Mojave green rattlesnake	*Crotalus scutulatus*
long-nosed leopard lizard	*Gambelia wislizenii*
Southern desert horned lizard	*Phrynosoma platyrhinos*
Mohave patch-nosed snake	*Salvadora hexalepis*
side-blotched lizard	*Uta stansburiana*

DIPODOMYS
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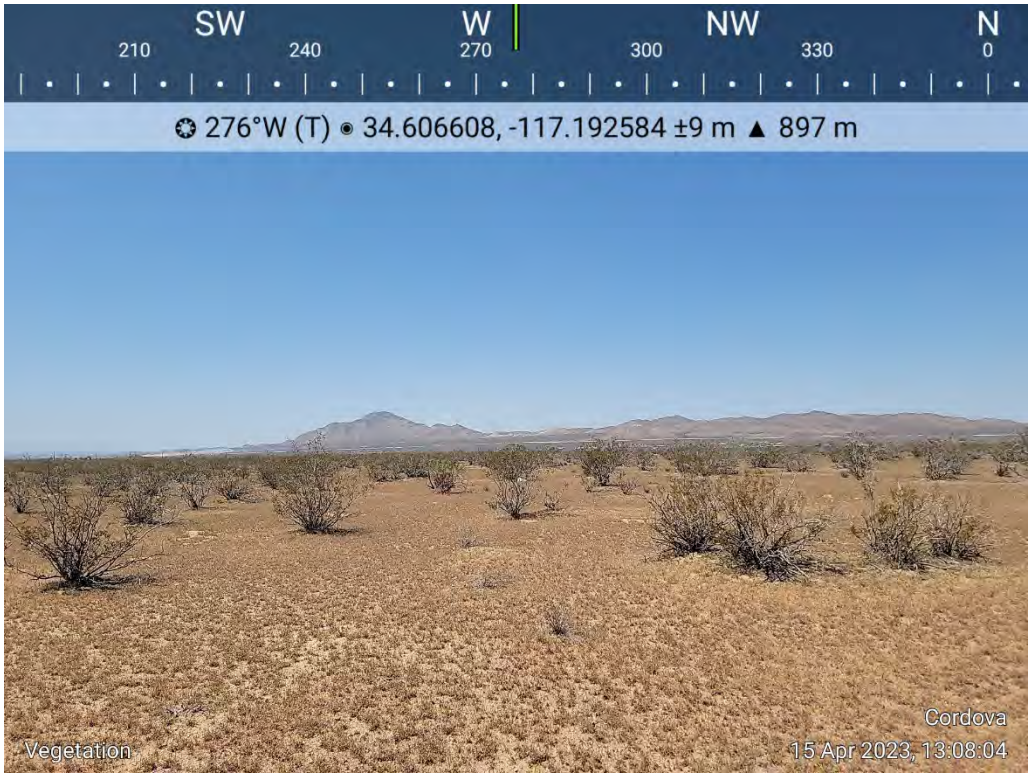
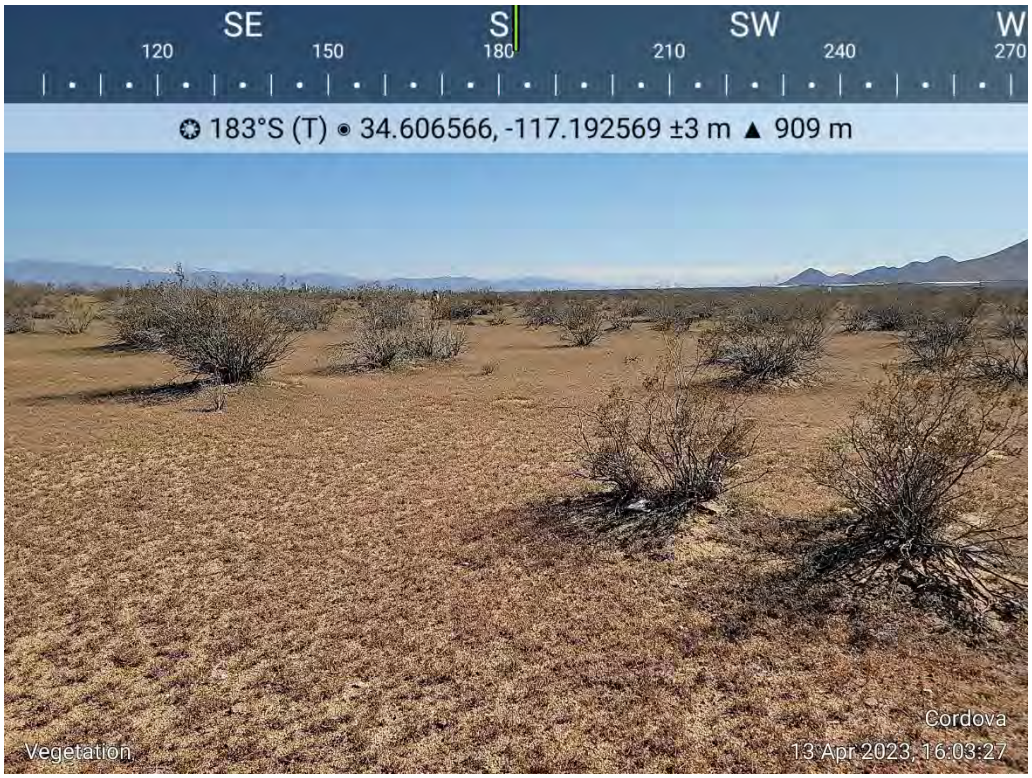
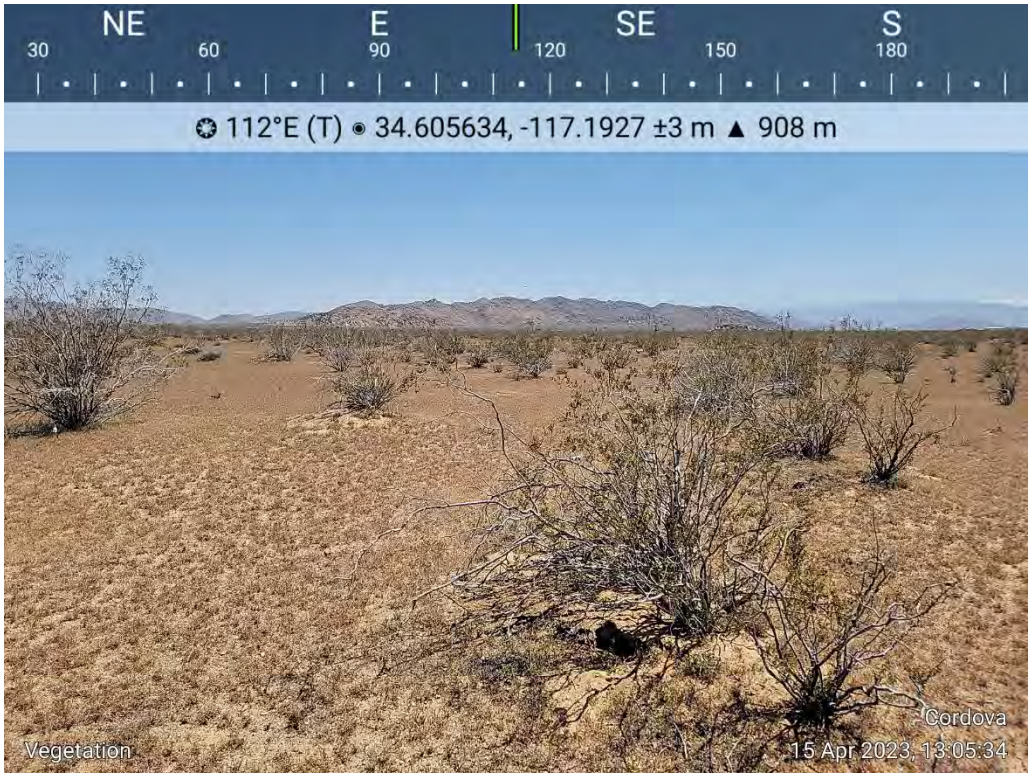
Attachment D



Photograph 1: Representative vegetation on grid, facing west.



Photograph 2: Representative vegetation on grid, facing south.



Photograph 3: Representative vegetation on grid, facing east.

Photograph 4: Representative camera trap station.

Photograph 5: Representative live trap station.

Photograph 6: White-tailed antelope ground squirrel (*Ammospermophilus leucurus*) captured.

Photograph 6: Mohave patch-nosed snake (*Salvadora hexalepis mojavensis*) on project site.

Photograph 6: Mojave green rattlesnake (*Crotalus scutulatus*) on project site.

August 4, 2023

Joseph Vu
Glenn Lukos Associates, Inc.
1940 E Deere Avenue, Suite 250
Santa Ana, CA 92705
Via email: jvu@wetlandpermitting.com

Subject: Results of Mohave Ground Squirrel Protocol Surveys for the Quarry Road Industrial Complex Project, Apple Valley, San Bernardino County, California

Dear Mr. Vu:

The purpose of this report is to document the results of a California Department of Fish and Wildlife (CDFW) protocol survey for Mohave ground squirrel (*Xerospermophilus mohavensis*; MGS) conducted by Dipodomys Ecological Consulting LLC (DEC) for the Quarry Road Industrial Complex Project (project). Presented in this report are a description of the project, project location, the biological setting of the site, MGS natural history, survey methodology, results of trapping efforts for MGS, and conclusions.

Project Description and Location

Covington Group proposes to develop a speculative industrial distribution warehouse complex on an 85-acre parcel. The 85-acre project parcel is located within the Town of Apple Valley in San Bernardino County. The parcel is bordered by Quarry Road on the north, Cardova Road on the south, Flint Road on the east, and an unnamed dirt road on the west (**Figures 1 and 2**). The parcel is surrounded by undeveloped desert land consisting of disturbed creosote bush scrub. The primary source of disturbance is past and current off highway vehicle (OHV) activity). Two major distribution centers are located immediately south of the parcel. The project sites can be found on U.S. Geological Survey (USGS) 7.5-minute Apple Valley North topographic quadrangle map within Section 15, Township 6 North and Range 3 West, as shown in **Figure 1**, Project Location.

Biological Setting

Vegetation communities within the project site include creosote bush-white bursage scrub (33.140.00). Dominant shrubs present include creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), as well as Anderson's thornbush (*Lycium andersonii*), Cooper's boxthorn (*Lycium cooperi*), Nevada joint-fir (*Ephedra nevadensis*), Cooper's goldenbush (*Ericameria cooperi*), and California buckwheat (*Eriogonum fasciculatum*). Herbaceous plants present onsite include fiddleneck (*Amsinckia tessellata*), red-stemmed filaree (*Erodium cicutarium*), goldfields (*Lasthenia californica*), common phacelia (*Phacelia distans*), Wallace's woolly daisy (*Eriophyllum wallacei*), desert lupine (*Lupinus shockleyi*), desert poppy (*Eschscholzia glyptosperma*), rattlesnake sandmat (*Euphorbia albomarginata*). Soils consist of Mirage-Joshua Complex, Nebona-Cuddeback Complex and Cajon-Arizo Complex

(WebSoil 2023). The project site is located at an elevation of approximately 3,035 feet above mean sea level (amsl).

Mohave Ground Squirrel Natural History

Mohave ground squirrels are medium-sized (210-230mm, 85-130g), diurnal squirrels. Their dorsal pelage is light gray to cinnamon-brown, while their ventral side is creamy. Unlike round-tailed ground squirrels (*Xerospermophilus tereticaudus*), which occur sympatrically in the southeast portion of their range, MGS have a short, flat tail that is light-colored on its underside, and have brown cheeks instead of white.

MGS inhabit a small geographic area in the western Mojave Desert. This species ranges from Palmdale in the southwest, the Lucerne Valley in the southeast, Olancha in the northwest, and the Avawatz Mountains in the northeast (Gustafson 1993). Although occurrences in the southern portion of their range are rare, occurrences have been documented on the California Natural Diversity Database (CNDDB) as recently as 2011 (Figure 3). Vegetation communities (as classified by the California Native Plant Society) typically associated with MGS include Mojave Creosote Scrub, Shadscale Scrub, Desert Saltbush Scrub, Desert Sink Scrub, and Joshua Tree Woodland. MGS feed primarily on the leaves and seeds of forbs and shrubs. In the northern portion of their range, MGS have been found to feed on spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*) and saltbush (*Atriplex* sp.), especially in early spring when forbs are unavailable, during summer when forbs have dried out, and during drought conditions (Leitner and Leitner 1998). Recent studies have also indicated that MGS feed on the following forbs and shrubs: freckled milkvetch (*Astragalus lentiginosus*), Mojave lupine (*Lupinus odoratus*), buckwheat (*Eriogonum* sp.), white mallow (*Eremalche exilis*), fiddleneck, Russian thistle (*Salsola tragus*), desert pincushion (*Chaenactis* sp.), Cryptantha (*Cryptantha pterocarya*), Coreopsis (*Leptosyne bigelovii*), Valley lessingia (*Lessingia glandulifera*), desert dandelion (*Malacothrix glabrata*), Phacelia (*Phacelia* sp.), wire lettuce (*Stephanomeria* sp.) Anderson's desert thorn, spiny horsebrush (*Tetradimya spinosa*), and Joshua tree *(Yucca brevifolia*) (Leitner and Leitner 2017).

MGS have adapted to live in hot desert environments by limiting their activity aboveground through estivation and hibernation. The timing of emergence from hibernation varies by location: in the northern portion of their range male MGS emerge mid-March (Leitner and Leitner 1998); however, in the southern portion of their range, MGS may emerge as early as mid-January (Recht 1977). Throughout their active period, MGS store fat in preparation for estivation, which typically occurs between July and September, but may occur as early as April or May during drought conditions (Leitner et al. 1995). MGS reproduction is dependent on fall and winter rains and individuals may forgo breeding entirely if low rainfall (<80mm) results in reduced herbaceous plants (Leitner and Leitner 2017).

Throughout the range of MGS, they may co-occur with antelope ground squirrels, round-tailed ground squirrels, and California ground squirrels (*Otospermophilus beecheyi*). MGS may be misidentified with round-tailed ground squirrels, but this is unlikely to occur with antelope ground squirrels, because the latter species has white dorsal stripes that makes them resemble a chipmunk more than an MGS. California ground squirrels are also notably larger and are not typically confused with MGS.

MGS are classified as threatened and are protected under the California Endangered Species Act. Primary threats to MGS include limited distribution, low abundance and habitat loss from by converting suitable habitat to urban, suburban, agricultural and military land uses (Gustafson 1993, Leitner and Leitner 2017).

Methods

Mohave ground squirrel (MGS) Protocol surveys for the Quarry Road Industrial Complex Project MGS were conducted in accordance with the 2010 CDFW MGS Survey Guidelines and consisted of an initial visual survey followed by live trapping and camera trapping efforts. Details for each survey type are described below.

Visual Survey

An initial review of the California Natural Diversity Database (CNDDB) was conducted prior to the visual assessment to determine the historical recorded occurrences of MGS near the project site (**Figure 3**). The visual survey was conducted by Principal Investigator Karla Flores (MOU and Scientific Collection Permit SC-10572) and Independent Researcher Karl Fairchild (SCP S-182820007-18333-001) on March 14, 2023. The visual survey consisted of driving and walking throughout the project site to identify suitable habitat for MGS. This included identifying plants known to provide forage material for MGS such as spiny hopsage, winterfat, Cooper's boxthorn, Anderson's desert thorn, and Joshua tree (Leitner 2022). Areas supporting suitable habitat for MGS where these plants are concentrated were recorded on an aerial map. Suitable soil types for burrowing and burrow densities were also noted.

Live Trapping

Live trapping surveys were conducted by Karl Fairchild and consisted of setting up one 100-trap 10x10 survey grids (315x315) within the project parcel. The grid encompassed wash and upland habitat types. Coordinate locations for the northern and southern grids are listed in **Table 1**. Traps in the grid were spaced 35 meters apart and utilized XLK Sherman live-traps (3x3.75x12") with accompanying A-frame cardboard shade covers staked to the ground with metal tent stakes. All traps were baited with 4-way livestock feed and peanut butter powder and were opened within one hour of sunrise and were checked no more than every four hours. All traps were closed within an hour of sunset. Trapping was conducted when temperatures were between 50- and 90-degrees Fahrenheit, and inclement conditions (rain, thunderstorms) were not present. All animals captured were released at their capture location, and the following information recorded for each capture: species, weight, age, sex, and reproductive condition. Live-trapping surveys were conducted for a period of five days in each of the three survey windows established by the MGS survey guidelines (1st: March 15-April 3; 2nd May 1-31;3rd June 15-July 15). Details for each survey period are presented in **Table 2.** MGS Survey and Trapping Forms, including weather details, are presented in **Attachment A** and **Attachment B**.

TABLE 1
UTM COORDINATES FOR CORNERS OF LIVE TRAPPING GRID

Corner	Zone	Easting	Northing
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*Datum: WGS 1984

TABLE 2
MOHAVE GROUND SQUIRREL SURVEY DATE AND TYPE

Session	Date	Survey Type
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3	June 28-July 2, 2023	LT/CT

LT: Live Trapping CT: Camera Trapping

Camera Trapping

Camera trapping surveys were utilized to supplement live-trapping efforts and consisted of setting up five camera trapping stations throughout the project site (**Figure 2**). Each camera trap station consisted of a Bushnell Core Low Glow Trail Camera (Model 1199932CB) secured to a 36-inch U-post facing a bait station. The bait station consisted of a feeding tube filled with 4-way livestock feed staked to the ground with a 12-inch railroad spike. Cameras operated 24 hours a day, concurrent with live-trapping surveys, and followed the set-up specifications described in Delaney et al. 2017. Coordinate locations for each camera trap station are listed below in **Table 3**.

Photos from the camera trap stations were downloaded and reviewed by the Principal Investigator after every five-day trapping session. A list of species detected at the camera trap stations is included in **Table 5**.

TABLE 3
COORDINATE LOCATIONS FOR CAMERA TRAP STATIONS

Camera	Zone	Easting	Northing
1	11	483088	3830305
2	11	483346	3830247
3	11	483301	3830014
4	11	483112	3829641
5	11	483380	3829668

*Datum: WGS 1984

Results

Visual Survey

Based on the habitat data collected during the visual survey, low-quality MGS habitat is present onsite. Primary MGS food plants such as winterfat and spiny hopsage are not present on site. However, other plants associated with MGS in microhistology and metabarcoding studies (Leitner 2022) are present, including creosote bush, Anderson's boxthorn, Cooper's boxthorn, fiddleneck, and red-stemmed filaree. Visual observations of burrows and burrow complexes showed that soil onsite is suitable for burrowing.

Live Trapping

No Mohave ground squirrels were captured during the three live-trapping survey periods. Live-trapping captures consisted entirely of non-target species including white-tailed antelope ground squirrel (*Ammospermophilus leucurus*) and Great Basin whiptail (*Aspidoscelis tigris*) (**Table 4; Figure 4**).

TABLE 4
RESULTS OF MOHAVE GROUND SQUIRREL PROTOCOL SURVEYS

Common name	Scientific name	Session			Total
		1	2	3	
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*	3	22	22	47
Great Basin whiptail	*Aspidoscelis tigris*	4	2	1	7
	Total	7	24	23	**54**

Camera Trapping

No Mohave ground squirrels were detected in the images collected during the camera trapping surveys. Species observed utilizing the camera trap stations included: white-tailed antelope ground squirrel, domestic dog, coyote, spiny pocket mouse sp., kangaroo rat sp., California ground squirrel, black-tailed jackrabbit, silky pocket mouse sp., and desert kit fox.

TABLE 5
RESULTS OF MOHAVE GROUND SQUIRREL CAMERA TRAPPING

Common name	Scientific name
white-tailed antelope ground squirrel	*Ammospermophilus leucurus*
domestic dog	*Canis familiaris*
coyote	*Canis latrans*
spiny pocket mouse	*Chaetodipus sp.*
kangaroo rat	*Dipodomys sp.*
black-tailed jackrabbit	*Lepus californicus*
California ground squirrel	*Otospermophilus beecheyi*
silky pocket mouse	*Perognathus sp.*
desert kit fox	*Vulpes macrotis*

Conclusions

The Quarry Road Industrial Complex Project is located within the southern portion of the MGS range where MGS occurrences are rare, and population densities have historically been low. Additionally, the site is located outside of the MGS core population areas, peripheral population areas and linkage areas described in the 2019 CDFW MGS Conservation Strategy. California Natural Diversity Database (CNDDB) occurrence details for MGS in the vicinity of the project site (**Figure 3**), indicate that MGS are

likely extirpated from the greater Sidewinder Valley-Apple Valley area. The nearest MGS occurrence to the project site, recorded 6.4 miles southwest from the project site, was recorded in 1977 west of Interstate 15 (I-15) which may act as a barrier to MGS dispersal. The most recent occurrences of MGS have been recorded in 2007 west of the Oro Grande/Mojave River approximately 10.5 miles west from the project site.

Although suitable habitat is present within the project parcel, no MGS were captured during the live-trapping or camera trapping surveys. Furthermore, the distance from core population areas and significant barriers to dispersal between the project site and documented recent occurrences make it unlikely that colonization from core MGS populations will occur in the near future. Based on the results of this survey, the CDFW survey guidelines indicate that the department will stipulate that no MGS occur on the project site. This stipulation will expire one year from the last day of trapping, July 2, 2023.

I hereby certify that the information in this report is true, and that it conforms to accepted biological standards. Please feel free to contact Karla Flores by phone at (619) 972-4319 or by email at kflores@dipodomysecological.com or Karl Fairchild by phone at (541) 609-1038 or by email at kfairchild@dipodomysecological.com, with any questions regarding this report.

Sincerely,

Karla L. Flores
Principal Investigator

Karl Fairchild
Principal Investigator

Figures and Attachments
Figure 1-Project Location
Figure 2-Survey Area
Figure 3- Historical MGS Occurrences
Figure 4- Results

Attachment A-CDFW Mohave Ground Squirrel Survey and Trapping Form(s)
Attachment B-Weather Details
Attachment C-Species Compendium
Attachment D-Representative Photographs

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Attachment A

DIPODOMYS
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Attachment B

Attachment B: Weather details for California Department of Fish and Wildlife (CDFW) Mohave ground squirrel (*Xerospermophilus mohavensis*) protocol surveys. Details include date, survey (1-3), air temperature (min-max ° Fahrenheit), soil temperature (min-max ° Fahrenheit), wind speed (mph) and percent cloud cover (%).

Date		Air Temperature (°F)		Soil temperature (°F)		Wind (mph)		Cloud Cover (%)	
		Min	Max	Min	Max	Start	End	Start	End
4/15/2023	1	57.2	82.2	53.1	66.8	1.7	9.3	0	0
4/16/2023	1	64	78.4	59.1	77.4	1.5	11.4	5	15
4/17/2023	1	63.8	78.8	57.6	71.3	2.5	12.8	0	0
4/18/2023	1	54.8	73.6	61.3	73.4	5.6	11.3	0	80
4/19/2023	1	65.8	72.8	70.6	72.5	2.6	2.3	0	10
5/12/2023	2	54.5	88.6	63.3	92	1.9	7.4	0	1
5/13/2023	2	60.5	89.6	66.3	70.1	1.3	2.8	0	1
5/14/2023	2	63.7	90	70.9	72.7	1.8	7.5	0	5
5/15/2023	2	62.6	90	65.9	72.8	1.4	4.4	3	25
5/16/2023	2	63	90	67.3	71.2	1	3.2	30	15
6/28/2023	3	61.1	82.3	70.7	78.3	1.1	3.5	0	0
6/29/2023	3	65.5	88.3	77.9	79.7	1.1	2	0	0
6/30/2023	3	71.5	89.3	79.7	81.9	2.2	1.7	0	0
7/1/2023	3	73.8	88.6	77.9	84.2	1.5	1.7	0	0
7/2/2023	3	74.7	90	80.5	85.7	1.5	6.9	0	0

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Attachment C

Common name	Scientific name
Plants-Shrubs	
white bursage	*Ambrosia dumosa*
Nevada jointfir	*Ephedra nevadensis*
Cooper's goldenbush	*Ericameria cooperi*
California buckwheat	*Eriogonum fasciculatum*
Creosote bush	*Larrea tridentata*
Anderson's thornbush	*Lycium andersonii*
cooper's boxthorn	*Lycium cooperi*
Plants-Herbaceous	
fiddleneck	*Amsinckia tessellata*
Wallace's woolly daisy	*Eriophyllum wallacei*
red-stemmed filaree	*Erodium cicutarium*
desert poppy	*Eschscholzia glyptosperma*
rattlesnake sandmat	*Euphorbia albomarginata*
goldfields	*Lasthenia californica*
desert lupine	*Lupinus shockleyi*
desert dandelion	*Malacothrix glabrata*
common phacelia	*Phacelia distans*
Birds	
black-throated sparrow	*Amphispiza bilineata*
Bell's sparrow	*Artemisiospiza belli*
verdin	*Auriparus flaviceps*
red-tailed hawk	*Buteo jamaicensis*
lesser nighthawk	*Chordeiles acutipennis*
common raven	*Corvus corax*
Horned lark	*Eremophila alpestris*
house finch	*Haemorhous mexicanus*
barn swallow	*Hirundo rustica*
ash-throated flycatcher	*Myiarchus cinerascens*
cliff swallow	*Petrochelidon pyrrhonota*
black-tailed gnatcatcher	*Polioptila melanura*
rock wren	*Salpinctes obsoletus*
Say's phoebe	Sayornis saya
yellow-rumped warbler	*Setophaga coronata*
Brewer's sparrow	*Spizella breweri*
mourning dove	*Zenaida macroura*
white-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*
domestic dog	*Canis familiaris*
coyote	*Canis latrans*
spiny pocket mouse	*Chaetodipus* sp.
kangaroo rat	*Dipodomys* sp.
black-tailed jackrabbit	*Lepus californicus*
silky pocket mouse	*Perognathus* sp.
California ground squirrel	*Otospermophilus beecheyi*
desert kit fox	*Vulpes macrotis*

Common name	Scientific name
Reptiles	
Great Basin whiptail	*Aspidoscelis tigris tigris*
Mojave green rattlesnake	*Crotalus scutulatus*
long-nosed leopard lizard	*Gambelia wislizenii*
Southern desert horned lizard	*Phrynosoma platyrhinos*
gopher snake	*Pituophis catenifer*
side-blotched lizard	*Uta stansburiana*

DIPODOMYS
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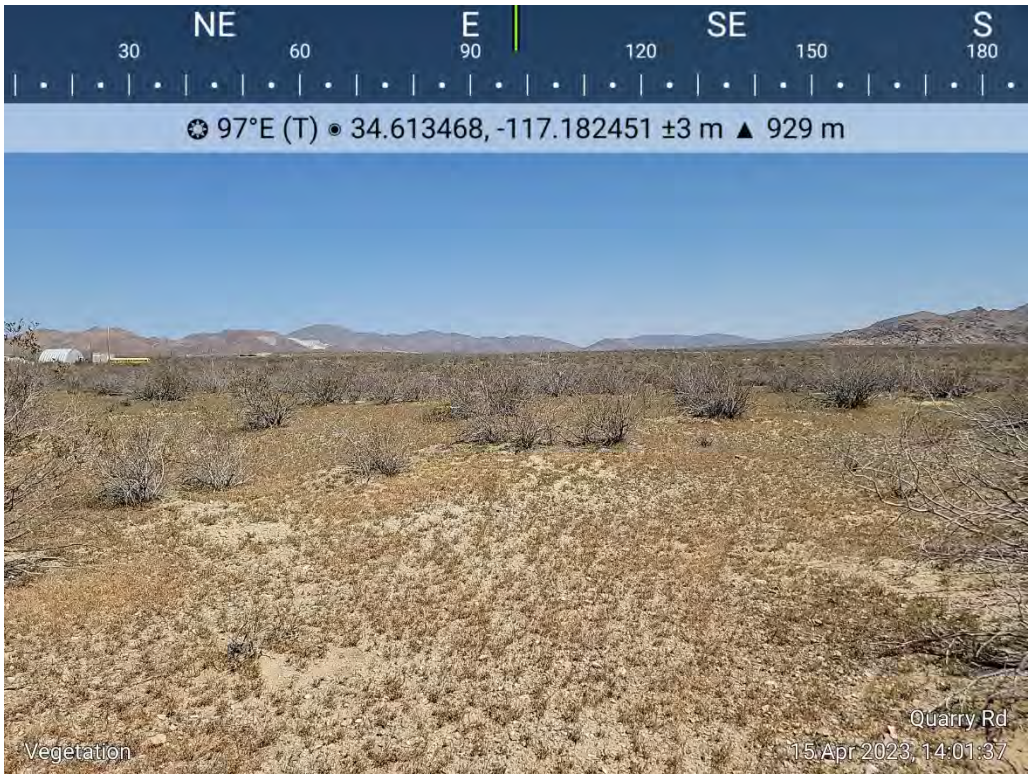
Attachment D

Photograph 1: Representative vegetation on grid, facing south.



Photograph 2: Representative vegetation on grid, facing east.

Photograph 3: Representative vegetation, facing north.

Photograph 4: Representative camera trap station.

Photograph 5: Representative live trap station.

Photograph 6: Desert kitfox (*Vulpes macrotis*) at camera trap station 2.

GLENN LUKOS ASSOCIATES

Regulatory Services

March 21, 2024

Josh Malhi
VVLIG Holdings LLC
9040 Leslie Street, Suite 7
Richmond Hill, ON L4B-3M4

SUBJECT: Jurisdictional Delineation of the Approximately 86.44-Acre Cordova Complex and Approximately 75.66-Acre Quarry at Pawnee Warehouse Project Sites, Located in in the Town of Apple Valley, San Bernardino County, California

Dear Mr. Malhi:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) jurisdiction for the above-referenced properties.[1]

The Cordova Complex Site and the Quarry at Pawnee Site (collectively, "Project sites") in San Bernardino County [Exhibit 1] comprise approximately 86.44-acres and 75.66-acres, respectively. The Cordova Complex Site contains one blue-line stream and the Quarry at Pawnee Site contains two blue-line streams as depicted on the U.S. Geological Survey (USGS) topographic map Apple Valley North, California [Exhibit 2]. On April 11 and September 12, 2023, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the Project sites to determine the presence and limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. Enclosed are 200 and 250-scale maps [Exhibit 3A, 3B, 3C, and 3D] that depicts the areas of Corps, Regional Board and CDFW jurisdiction for each Project site. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4.

No Corps jurisdiction is associated with the Project sites.

[1] This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the regulatory agencies. Only the regulatory agencies can make a final determination of jurisdictional boundaries.

Regional Board jurisdiction within the Project sites totals approximately 1.33 acres (0.63 acre for Cordova Complex Site and 0.70 acre for Quarry at Pawnee Site), none of which consists of State wetlands.

CDFW jurisdiction within the Project sites totals approximately 1.33 acres (0.63 acre for Cordova Complex Site and 0.70 acre for Quarry at Pawnee Site), none of which consists of riparian vegetated habitat.

I. METHODOLOGY

Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the property, the previously cited USGS topographic map, and a soils map were examined to determine the locations of potential areas of Corps, Regional Board, and CDFW jurisdiction. Suspected potential jurisdictional areas were field checked for evidence of stream activity and/or wetland vegetation, soils and hydrology. Where applicable, reference was made to the 2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (OHWM Manual)[2] to identify the width of Corps jurisdiction, and suspected federal wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[3] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement).[4] Reference was also made to the 2019 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Board Wetland Definition and Procedures) to identify suspected State wetland habitats.[5] While in the field, the potential limits of jurisdiction were recorded with a sub-meter Trimble GPS device in conjunction with a color aerial photograph using visible landmarks.

The National Cooperative Soil Survey (NCSS) has mapped the following soil types as occurring in the general vicinity of the project site:

[2] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States
[3] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.
[4] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
[5] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.

Cajon Sand, 2 to 9 Percent Slopes; Cajon-Arizo Complex, 2 to 15 Percent Slopes

The Cajon series consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils are on alluvial fans, fan aprons, fan skirts, inset fans and river terraces. Slopes are zero to 15 percent. The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium. Arizo soils are on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. Slope ranges from zero to 15 percent.

Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes

The Helendale series consists of very deep, well drained soils that formed in alluvium from granitoid rocks. Helendale soils are on fan piedmonts, fan remnants, alluvial fans and terraces. Slopes range from zero to 15 percent. The Bryman series consists of deep, well drained soils that formed in alluvium from dominantly granitic sources. Bryman soils are on terraces and older alluvial fans and have slopes of zero to 15 percent.

Mirage-Joshua Complex, 2 to 5 Percent Slopes

The Mirage series consist of deep, well drained soils that formed in mixed alluvium, predominantly from granitic sources. Mirage soils are on old terraces with well-developed erosion pavement and have slopes of two to five percent. The Joshua Complex series consists of moderately deep, well drained soils that formed in material derived from mixed sources. Joshua Complex soils are on old terraces with a well-developed erosion pavement and have slopes two to 15 percent.

Nebona-Cuddeback Complex, 2 to 9 Percent Slopes

The Nebona series consists of shallow, well drained soils that formed in mixed alluvium. Nebona soils are on terraces and have slopes of two to nine percent. The Cuddeback series consists of moderately deep, well drained soils that formed in alluvium from mixed sources. Cuddeback soils are on old terraces and alluvial fans and have slopes of two to nine percent.

II. JURISDICTION

A. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

(1) Waters which are:
  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
  (ii) The territorial seas; or
  (iii) Interstate waters;
(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
(3) Tributaries of waters identified in paragraphs (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
(4) Wetlands adjacent to the following waters:
  (i) Waters identified in paragraph (a)(1) of this section; or
  (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Corps regulations at 33 CFR Part 328.3(b) exclude the following from being "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) above:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water

Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(c)(4) as:

> ...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

"Adjacent" wetlands are defined by 33 CFR 328.3(c)(2) as having a "continuous surface connection" to other waters of the United States.

1. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(c)(1) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in

the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be hydrophytic in nature as published in the most current national wetland plant list;

- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and

- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

2. Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by migratory birds or endangered species, and the definition of "waters of the United States" in Corps regulations was modified as quoted above from 33 CFR 328.3(a).

On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the Clean Water Act.

The written opinion notes that the court's previous support of the Corps' expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc*.) was for a wetland that abutted a navigable water and that the court did not express any opinion on the

question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

> *In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.*

Therefore, we believe that the court's opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the Clean Water Act (regardless of any interstate commerce connection). However, the Corps and EPA have issued a joint memorandum which states that they are interpreting the ruling to address only the migratory bird issue and leaving the other interstate commerce clause nexuses intact.

B. Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[6] and waters of the State. Waters of the United States are defined above in Section II.A and waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

[6] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

1. State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*
The following wetlands are waters of the State:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state;*[7] *and*
3. *Artificial wetlands*[8] *that meet any of the following criteria:*

a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
b. Specifically identified in a water quality control plan as a wetland or other water of the state;
c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

i. Industrial or municipal wastewater treatment or disposal,
ii. Settling of sediment,
iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,

[7] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.
[8] Artificial wetlands are wetlands that result from human activity.

viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[9]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

C. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines wildlife to include "all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities, including the habitat upon which they depend for continued viability" (FGC Division 0.5, Chapter 1, section 89.5). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

[9] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

III. RESULTS

A. Jurisdictional Summary

All drainage features in the Project sites have an ephemeral flow regime typical of desert wash systems. These features exhibit a moderate gradient, which results in flows of relatively lower velocities and allows braiding to occur. OHWM indicators/evidence of flow associated with the desert washes within the Project site consist of a break in bank slope, destruction of terrestrial vegetation, sediment sorting, presence of bed and bank, and sediment deposition. These confined desert washes occur within drainages and the associated tributaries for both Project sites. The active channels of the drainages features have a sandy substrate and are generally unvegetated; upland vegetation along the margin and upper terraces consists primarily of creosote bush (*Larrea tridentata*) in the shrub canopy, with cheese bush (*Ambrosia salsola*), and desert Nevada ephedra (*Ephedra nevadensis*) also present. Photos of the drainage features are depicted on Exhibit 4 – Site Photographs. A soils map is included as Exhibit 5.

Cordova Complex Site

Four main drainages occur within the Cordova Complex Site, designated herein as Drainages A, B, C, and D [Exhibit 3A – Regional Board Jurisdictional Delineation Map and Exhibit 3B – CDFW Jurisdictional Delineation Map]. Drainages A, B, C, and D all flow in a westward direction prior to exiting the site at the western and southern Project site boundaries. Flows that enter the Project site originate from the mountain slopes to the east. Flows generally percolate into the ground, precluding a connection to the Mojave River, which is located approximately seven miles from the Project site.

Drainage A

Drainage A enters the Project site at the eastern boundary and conveys flows westward with an OHWM ranging from one to 10 feet in width. Drainage A exits the Project site at the western boundary where it continues offsite. Tributary A1 originates onsite, conveys flows in a westward direction, and has an OHWM of one to five feet in width.

Drainage B

Drainage B enters the Project site at the eastern boundary and generally conveys flows in a westward direction with an OHWM ranging from one to 10 feet in width. Drainage B exits the Project site at the western boundary where it continues offsite. Tributary B1 has an OHWM of two to five feet in width. Tributary B2 has an OHWM of one to two feet in width. Tributary B3 has an OHWM of two to eight feet in width. Tributary B4 has an OHWM of two to four feet in

width and Tributary B5 has an OHWM of one foot in width. All tributaries to Drainage B originate onsite and convey flows in a westward direction.

Drainage C

Drainage C originates onsite in the central portion of the Project site and conveys flows in a southwest direction. It supports with an OHWM ranging from one to four feet and exits the Project site along the southern boundary where it continues offsite.

Drainage D

Drainage D enters the Project site at the eastern boundary and generally conveys flows to the southwest with an OHWM ranging from one to 10 feet in width. Drainage D exits the Project site at the western boundary where it continues offsite.

Quarry at Pawnee Site

Five drainages occur with the Quarry at Pawnee Site, designated herein as Drainages E, F, G, H, and I [Exhibit 3C –Regional Board Jurisdictional Delineation Map and Exhibit 3D – CDFW Jurisdictional Delineation Map]. Drainages E, F, G, H, and I all flow westward prior to exiting the site at the western and southern Project site boundaries. Flows that enter the Project site originate offsite from the mountain slopes to the east. Flows generally percolate into the ground, precluding a connection to the Mojave River, which is located approximately seven miles from the Project site.

Drainage E

Drainage E originates onsite in the central portion of the Project site and conveys flows in a southwest direction. It has an OHWM of one feet in width. Drainage E exits the Project site along the western boundary where it continues offsite.

Drainage F

Drainage F enters the Project site at the eastern boundary and conveys flows in a southwest direction with an OHWM ranging from one to 10 feet in width. Tributaries F1 and F2 have an OHWM of two feet in width. Drainage F and its tributaries exits the Project site along the western boundary where it continues offsite.

Drainage G

Drainage G enters the Project site at the eastern boundary and conveys flows in a western direction with an OHWM ranging from one to eight feet in width. Drainage G exits the Project site at the western boundary where it continues offsite.

Drainage H

Drainage H enters the Project site at the eastern boundary and conveys flows in a southern direction with an OHWM ranging from one to 20 feet in width. Drainage H exits the Project site at the southern boundary where it continues offsite.

Drainage I

Drainage I enters the Project site at the eastern boundary and conveys flows in a southwest direction with an OHWM of four feet in width. Drainage I exits the Project site at the southeastern boundary where it continues offsite.

A. Corps Jurisdiction

No Corps jurisdiction is present within the Project sites.

Flows associated with Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site do not comprise relatively permanent, standing or continuously flowing bodies of water and are not tributary to interstate waters or waters used in interstate commerce. Drainages A through D convey surface water only in direct response to precipitation (e.g., rain) and as such rarely contain surface water. No surface water was present at the time of the site visits. As a result, Drainages A through D at the Cordova Complex Site and Drainage E through I at the Quarry at Pawnee Site are not considered waters of the U.S that would be subject to Corps jurisdiction pursuant to Section 404 of the CWA.

B. Regional Board Jurisdiction

Regional Board jurisdiction is limited to the ephemeral drainage features (Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site) and their tributaries and totals approximately 1.63 acres (0.93 acre for Cordova Complex Site and 0.70 for Quarry at Pawnee Site), none of which consists of State wetlands. A total of approximately 16,817 linear feet of ephemeral streams are present.

Since Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site are not subject to Corps jurisdiction pursuant to Section 404 of the CWA, these features are also not subject to Regional Board jurisdiction pursuant to Section 401 of the CWA. However, since these features convey surface flow in direct response to precipitation with the potential to support beneficial uses, they are considered to be waters of the State that would be regulated by the Regional Board pursuant to Section 13260 of the California Water Code (CWC)/the Porter-Cologne Act. No riparian or wetland areas were observed within the Project sites.

Table 1 below summarizes Regional Board jurisdictional waters associated with the Project sites. The boundaries of Regional Board jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 3A and 3C].

Table 1: Summary of Regional Board Jurisdiction

Drainage Name	Regional Board Non-Wetland Waters (acres)	Regional Board Jurisdictional Wetlands (acres)	Total Regional Board Jurisdiction (acres)	Length (linear feet)
Cordova Complex Site				
Drainage A	0.08	0	0.08	761
Tributary A1	0.02	0	0.02	219
Drainage B	0.61	0	0.61	2,545
Tributary B1	0.09	0	0.09	1,129
Tributary B2	0.01	0	0.01	358
Tributary B3	0.05	0	0.05	330
Tributary B4	0.01	0	0.01	105
Tributary B5	<0.01	0	<0.01	118
Drainage C	0.05	0	0.05	969
Drainage D	0.01	0	0.01	89
Total	**0.93**	**0**	**0.93**	**6,623**
Cordova Complex Site				
Drainage E	0.03	0	0.03	1,245
Drainage F	0.31	0	0.31	3,728
Tributary F1	0.03	0	0.03	573
Tributary F2	0.01	0	0.01	157
Drainage G	0.14	0	0.14	2,118
Drainage H	0.15	0	0.15	2,046
Drainage I	0.03	0	0.03	327
Total	**0.70**	**0**	**0.70**	**10,194**

C. CDFW Jurisdiction

CDFW jurisdiction is limited to the ephemeral drainage features (Drainages A through D for the Cordova Complex Site and Drainages E through I for the Quarry at Pawnee Site) and their tributaries and totals approximately 1.63 acres (0.93 acre for Cordova Complex Site and 0.70 acre for Quarry at Pawnee Site), none of which consists of wetlands or vegetated riparian habitat. A total of approximately 16,817 linear feet of ephemeral streams are present. These features exhibit defined stream flow indictors as evidenced by changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, and incised channel bank. Since these features exhibit a discernable stream course, they are subject to regulation by the CDFW under Section 1602 of the Fish and Game Code. No riparian or wetland areas were observed within the Project sites.

Table 2 below summarizes CDFW jurisdictional waters associated with the Project sites. The boundaries of CDFW jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 3B and 3D].

Table 2: Summary of CDFW Jurisdiction

Drainage Name	CDFW Non-riparian Stream (acres)	CDFW Riparian Habitat (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Cordova Complex Site				
Drainage A	0.08	0	0.08	761
Tributary A1	0.02	0	0.02	219
Drainage B	0.61	0	0.61	2,545
Tributary B1	0.09	0	0.09	1,129
Tributary B2	0.01	0	0.01	358
Tributary B3	0.05	0	0.05	330
Tributary B4	0.01	0	0.01	105
Tributary B5	<0.01	0	<0.01	118
Drainage C	0.05	0	0.05	969
Drainage D	0.01	0	0.01	89
Total	**0.93**	**0**	**0.93**	**6,623**
Quarry at Pawnee Site				
Drainage E	0.03	0	0.03	1,245
Drainage F	0.31	0	0.31	3,728
Tributary F1	0.03	0	0.03	573
Tributary F2	0.01	0	0.01	157
Drainage G	0.14	0	0.14	2,118
Drainage H	0.15	0	0.15	2,046

Drainage Name	CDFW Non-riparian Stream (acres)	CDFW Riparian Habitat (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Drainage I	0.03	0	0.03	327
Total	**0.70**	**0**	**0.70**	**10,194**

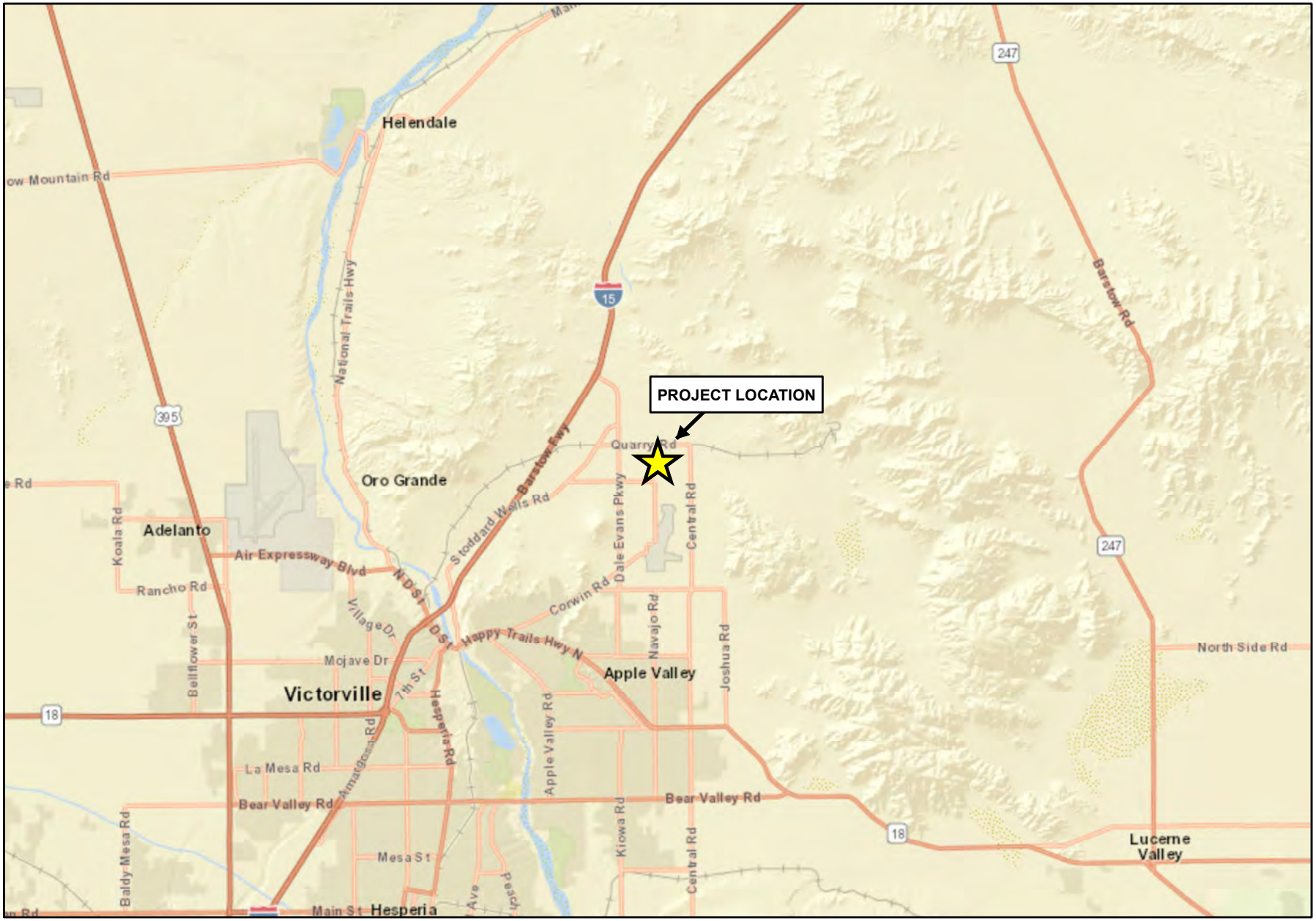
If you have any questions about this letter report, please contact Joseph Vu at (949) 340-6775 or at jvu@wetlandpermitting.com.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Joseph Vu
Regulatory Specialist

p:1588-2a.JD.rpt and 1588-3a.JD.rpt



Source: ESRI World Street Map

N

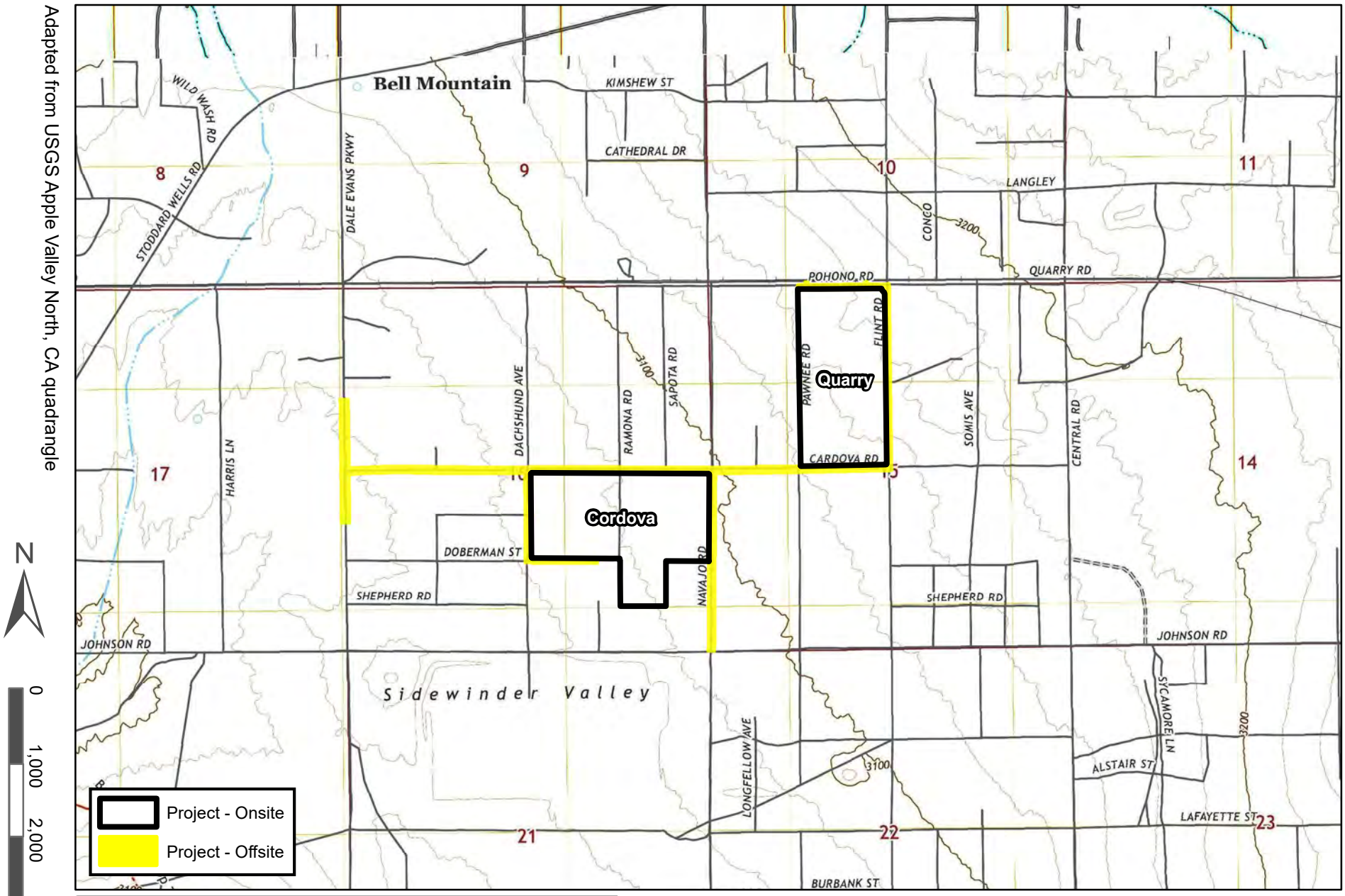
0 2 4 8 Miles

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

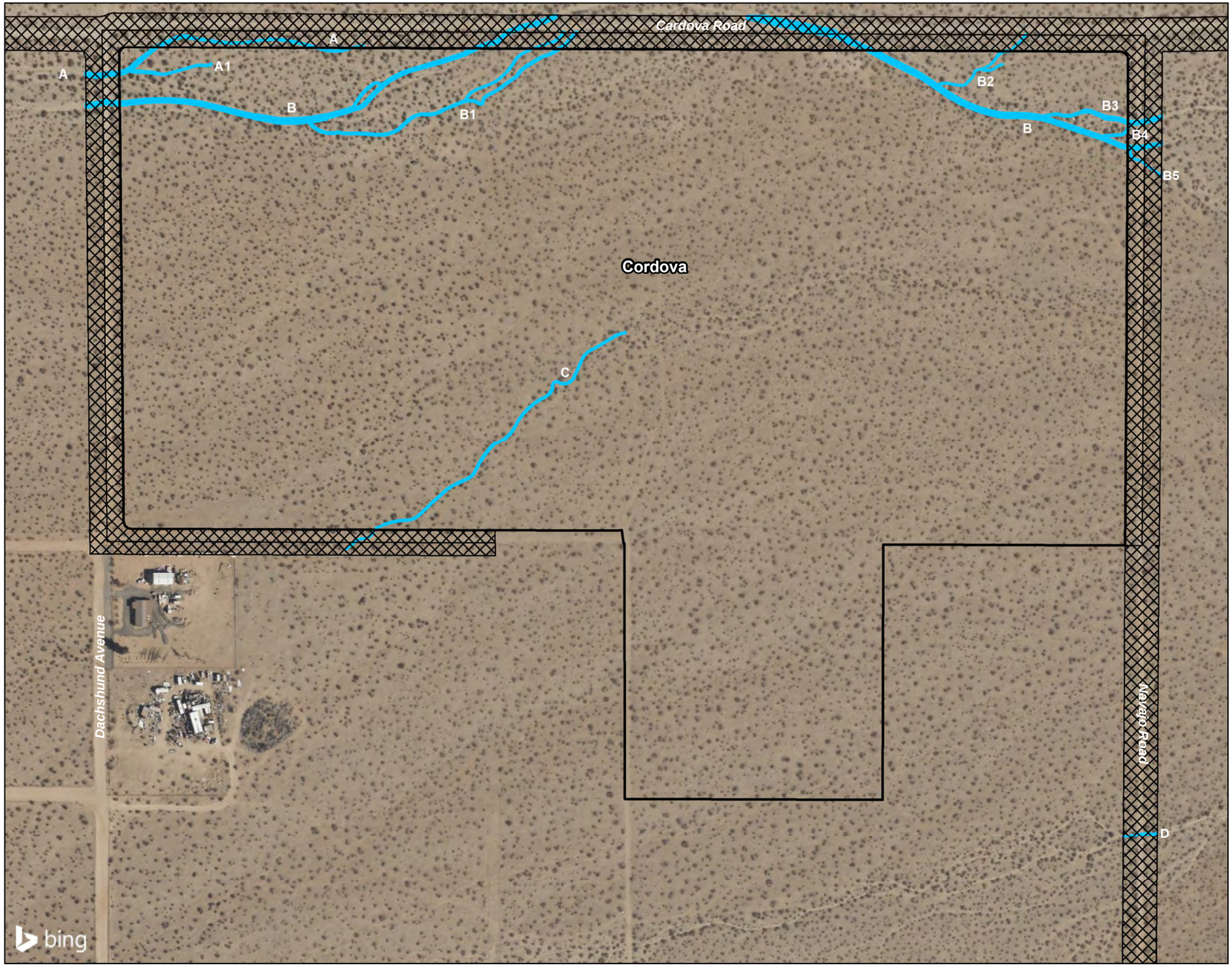


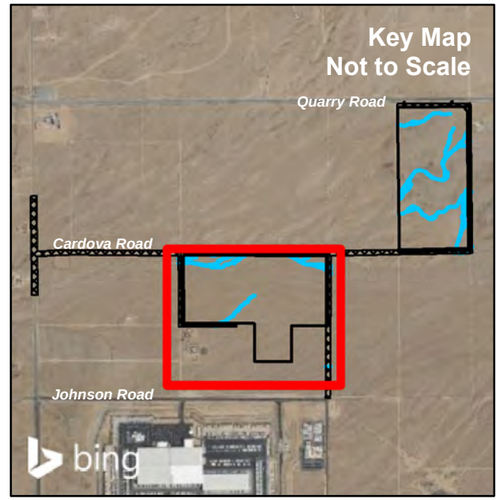
CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2





Project - Onsite

Project - Offsite

RWQCB Non-Wetland Waters

N

0 125 250 500

Feet

1 inch = 250 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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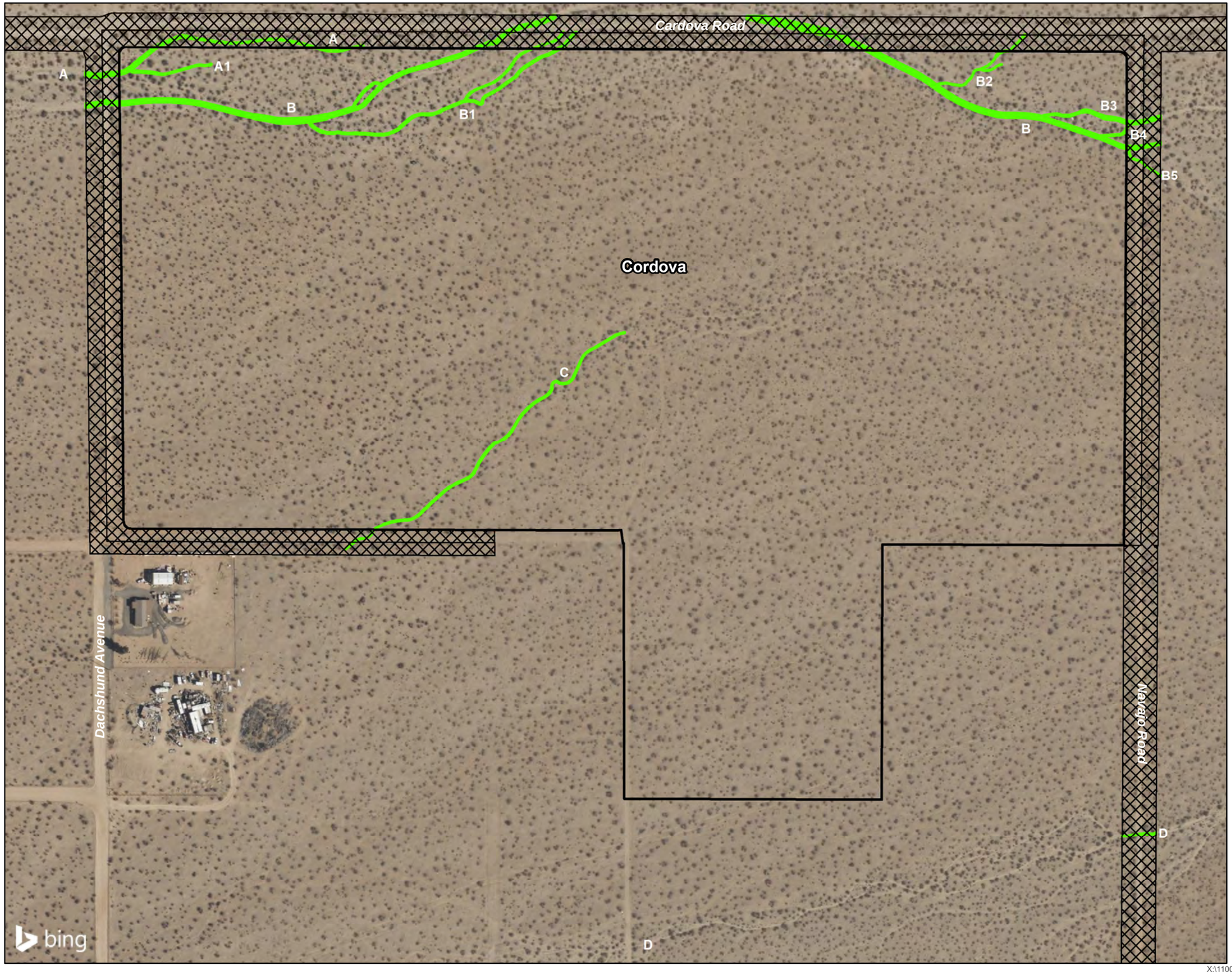
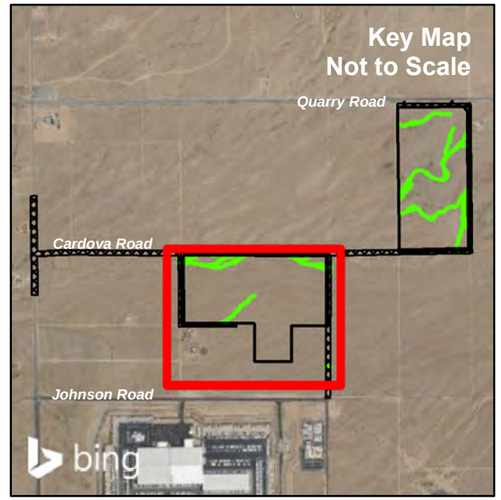




Project - Onsite

Project - Offsite

CDFW Non-Riparian Stream

N

0 125 250 500

Feet

1 inch = 250 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_CDFW_Cordova.mxd

Quarry Road

E

F1

F

Quarry

F2

Flint Road

F

F

H

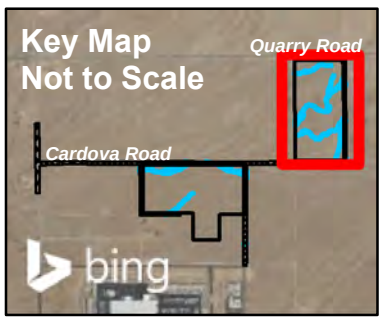
G

I

bing

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

Key Map
Not to Scale



Project - Onsite

Project - Offsite

RWQCB Non-Wetland Waters

N

0 100 200 400

Feet

1 inch = 200 feet

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3C

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_RWQCB_Quarry.mxd

Quarry Road

E

F1

F

Quarry

Flint Road

F2

F

F

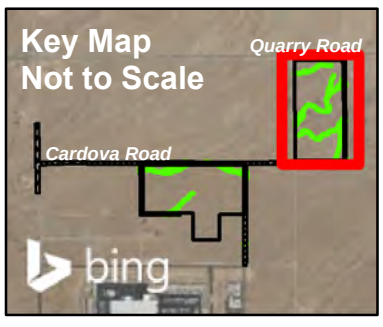
H

G

bing

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 18, 2024

Key Map
Not to Scale



Project - Onsite

Project - Offsite

CDFW Non-Riparian Stream

N

0 100 200 400

Feet

1 inch = 200 feet

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3D

X:\1100 AFTER THE REST\1588-02CORD\GIS\DelineationGIS\1588-02_CDFW_Quarry.mxd

Photograph 1: Photo looking upstream within Drainage A from western boundary of the Project site. Photo depicts the sandy bottom of Drainage A.

Photograph 2: Photo looking east, depicting the confluence of Tributary A1 and adjacent upland vegetation.

Photograph 3: Photo looking east, depicting the Drainage B. Photo depicts incised northern bank of Tributary A1 and adjacent upland vegetation. Representative photo Drainage B East

Photograph 4: Photo looking northwest, depicting the confluence of Tributary B1 with Drainage B. Photo depicts Tributary A1 and adjacent upland vegetation.

GLENN LUKOS ASSOCIATES

Exhibit 4– Page 1

CORDOVA COMPLEX AND QUARRY AT PAWNEE WAREHOUSE PROJECTS

Site Photographs

Photograph 5: Photo looking west, depicting the Tributary B2.

Photograph 6: Photo looking west, depicting the Tributary B3. Photo depicts incised bank of the tributary and adjacent upland vegetation.

Photograph 7: Photo looking southwest, depicting the confluence of Tributary B4 with Drainage B. Photo depicts incised bank of Tributary B4.

Photograph 8: Photo looking southwest, depicting the Drainage C.

Photograph 9: Photo looking west, depicting the Drainage D.

Photograph 10: Photo looking west, depicting the Drainage E.

Photograph 11: Photo looking southwest, depicting the confluence of Drainage F. Photo depicts incised bank of Drainage F.

Photograph 12: Photo looking south, depicting the Tributary F1.

Photograph 13: Photo looking west, depicting the Drainage G.

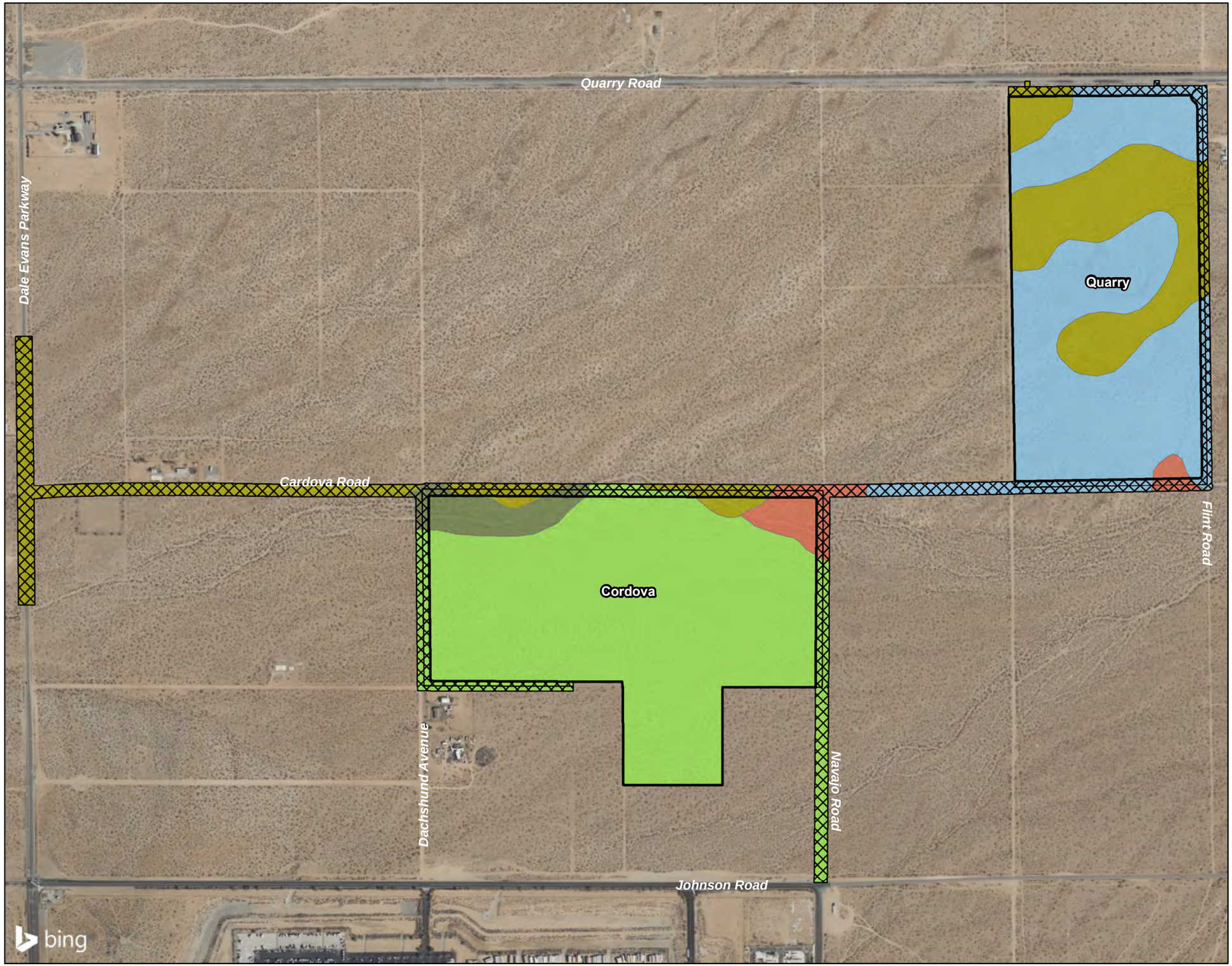
Photograph 14: Photo looking south, depicting the Drainage H.

Photograph 15: Photo looking southwest, depicting Drainage I.

GLENN LUKOS ASSOCIATES

CORDOVA COMPLEX AND QUARRY AT PAWNEE WAREHOUSE PROJECTS

Site Photographs



- Project - Onsite
- Project - Offsite
- Cajon Sand, 2 to 9 Percent Slopes
- Cajon-Arizo Complex, 2 to 15 Percent Slopes
- Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes
- Mirage-Joshua Complex, 2 to 5 Percent Slopes
- Nebona-Cuddeback Complex, 2 to 9 Percent Slopes

N

0 325 650 1,300

Feet

1 inch = 650 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 18, 2024

CORDOVA & QUARRY ROAD INDUSTRIAL COMPLEX PROJECTS

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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TOWN OF APPLE VALLEY

INTERIM LOCAL POLICY AND PROCEDURES ON THE WESTERN JOSHUA TREE

Section I: Purpose

The purpose of this policy is to provide helpful direction and clarify the requirements relating to the potential removal, relocation or trimming of a Western Joshua Tree associated grading conducted on a site that may contain the Western Joshua Tree.

Section II: Background

On September 22, 2020 the California Department of Fish and Wildlife (CDFW) accepted a petition to list the Western Joshua Tree ("WJT" or "tree") as a threatened or endangered species in the State of California under the California Endangered Species Act (CESA). As a candidate for listing, the tree must be protected as if it were already a threatened or endangered species during the candidacy review period, which has been extended through April 2022. Under CESA, it is illegal to harm, remove, damage, or relocate, which are all considered a "take" of the species, without approval of an Incidental Take Permit issued by CDFW. With respect to the Western Joshua Tree, removal of a tree, or any part thereof, or impacts to the seedbank surrounding one or more trees may result in "take" of the species which is prohibited by State law unless otherwise authorized.

During the CDFW review period, the Town is not authorized to issue local permits to remove, relocate or trim WJT and does not have authorization over CDFW's Incidental Take Permit.

Section III: Potential Disturbance Due to Development

At time of submittal, site and grading plans will be required to include the location of all Western Joshua Trees on-site and/or within a forty (40)-foot radius of any planned disturbance area. This radius is consistent with the County of San Bernardino Land Use guidance. When a project submits an application for a building permit, Town Staff will complete a pre-site inspection to determine the presence or absence of the Western Joshua Tree. If the development requires a land use application, the site plan must identify the location of all existing Western Joshua Trees on-site or within forty (40) feet of the proposed area of disturbance. If a development is subject to the California Environmental Quality Act (CEQA), the Applicant must identify if the WJT will be protected, relocated, or removed consistent with this policy.

Three potential scenarios exist should WJT be present on a site or within forty (40) feet of any ground disturbance:

1. Clear Avoidance: If sufficient evidence is presented, and confirmed through a pre-site inspection, that there will be no disturbance within forty (40) feet of an existing Western Joshua Tree, no further action will be required.

2. Expert Determination of Avoidance: If the proposed grading/construction is within forty (40) feet of a Western Joshua Tree, the applicant may seek a determination from a Desert Native Plant Specialist to attest to and confirm avoidance of the Western Joshua Tree with a reduced separation distance. The specialist's report may specify protective measures to ensure that the proposed grading/construction will avoid any impact resulting in a take of any Western Joshua Tree. The report must include a site plan, drawn to scale, showing the location of proposed grading/construction and all existing Western Joshua Trees, with photos showing all Western Joshua Trees in relation to the proposed grading/construction. The report must contain the findings and avoidance recommendations of the Desert Native Plant Specialist, as well as a signature and all pertinent license/qualifications information.

   Per state law, a Desert Native Plant Specialist is all of the following:

   - A certified arborist, who appears on the Town's approved local arborist list;
   - An individual with a four-year college degree in ecology or fish and wildlife related biological science and at least two years of professional experience with relocation or restoration of native California desert vegetation; or
   - An individual with at least five years professional experience with relocation or restoration of native California desert vegetation, Examples: Full-time professional nursery or landscape professional experience with native California desert plants, including western Joshua trees.

3. State Permit Required for Take: If it is determined that the proposed development activity would require a take of the Western Joshua Tree, as defined above, the project may be redesigned to avoid impact to the tree, or the applicant must obtain an Incidental Take Permit (ITP) from the California Department of Fish and Wildlife before the project can proceed. No additional approvals are required by the Town if an ITP is obtained from CDFW; in other words, only CDFW, not the Town, can issue ITPs while the WJT is protected.

   To obtain an ITP visit: wildlife.ca.gov/Conservation/CESA/Permitting/Incidental-Take-Permits

Section IV: Disturbance Not Necessarily Associated with a Development Project

Because of the public health and safety hazard that may be presented by dead or weakened Western Joshua Trees in public rights-of-way or near structures, the California Fish and Game Commission recently created a special order allowing incidental take of WJT during the CESA candidacy review period for activities that meet certain conditions (Section 749.11, Title 14, California Code of Regulations (CCR)). These emergency regulations are effective January 7, 2021, through April 2022, or as may be further extended by CDFW.

Under the emergency regulations, CDFW can issue permits allowing the removal of a dead WJT or the trimming of a WJT, without payment of mitigation fees or other mitigation, if:

- The dead WJT has fallen over and is within 30' of an existing structure.
- Limb(s) have fallen over
- The dead WJT or limb(s) are leaning against an existing structure; and
- The dead WJT or limb(s) creates an imminent threat to public health or safety.

Under such circumstances, a permit can be obtained from CDFW by emailing or mailing an application, pictures and other documentation as may be needed to CDFW.

Additional information together with the permit and submittal instructions is located on the California Department of Fish and Wildlife website: wildlife.ca.gov/Conservation/CESA/WJT

Section V: Resource Contact Information

Question or comments may be directed to the California Department of Fish and Wildlife at (909) 484-0167 or WJT@wildlife.ca.gov.

The Town of Apple Valley Planning Division is available at (760) 240-7000, ext. 7200 or via email at Planning@applevalley.org.

Published: July 21, 2021

Burrowing Owl Relocation Plan

Cordova Complex and Quarry at Pawnee Warehouse Projects

APRIL 2024

Prepared for:

VVLIG HOLDINGS LLC
9040 Leslie Street, Suite 7
Richmond Hill, ON L4B-3M4
Contact: Jessica Haughton

Prepared by:

DUDEK

605 Third Street
Encinitas, California 92024
Contact: Brock Ortega

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

FIGURES

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CDFW	California Department of Fish and Wildlife
MM	Mitigation Measure
Plan	Burrowing Owl Relocation Plan
Project	Cordova Complex and Quarry at Pawnee Warehouse Projects

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1 Purpose and Objectives

The following Burrowing Owl Relocation Plan (Plan) describes the burrowing owl (*Athene cunicularia*) monitoring and reporting requirements during construction of the Cordova Complex and Quarry at Pawnee Warehouse Projects (project) as recommended in section 4.3, Biological Resources, of the Environmental Impact Report (EIR) prepared for the project (Dudek 2024). This Plan was prepared in accordance with **Mitigation Measure (MM) BIO-9** per EIR section 4.3. The full text of **MM-BIO-9** is provided in Section 1.1 herein for ease of reference.

This Plan is intended to identify when passive displacement of burrowing owls will be used, the methods that will be implemented to perform passive displacement, and the monitoring and reporting that will be required if passive displacement is performed. More specifically, this Plan includes descriptions of the following requirements for passive displacement procedures:

- Methods to confirm a burrow is active
- Measures that could be used to avoid and minimize impacts
- Methods to be used to determine vacancy and excavation timing
- Methods for burrow excavation
- Methods for removal of other potential owl burrow surrogates or refugia
- Requirements for reporting on the excavation and closure of burrows
- Requirements for monitoring to evaluate success
- Requirements for reporting on long-term burrowing owl deterrence of the impacted site

1.1 Mitigation Measure BIO-9

This Plan was prepared in accordance with **MM-BIO-9**, per section 4.3 Biological Resources, of the Environmental Impact Report (EIR) (Dudek 2024). The full text of **MM-BIO-9** is provided below:

MM-BIO-9 Pre-construction Burrowing Owl Survey. A qualified biologist retained by the Project Applicant or construction contractor will conduct two pre-construction presence/absence surveys for burrowing owls, one no less than 14 days prior to site disturbance, and one within 24 hours of site ground-disturbing activities (e.g., disking, vegetation clearing, clearing and grubbing, equipment staging, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. Surveys for burrowing owl shall be conducted in accordance with protocols established in the California Department of Fish and Wildlife's 2012 (or most recent version) Staff Report on Burrowing Owl Mitigation. If burrowing owls are not detected during the pre-construction take avoidance surveys, then no additional action is required.

If burrowing owls are detected, a Burrowing Owl Relocation and Protection Plan shall be prepared and implemented for the Project. The Burrowing Owl Relocation Plan shall include that disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in accordance with guidance provided in CDFW's Staff Report on Burrowing Owl Mitigation. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place

until it is determined that occupied burrows have been vacated or the nesting season has completed.

Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project area and within a buffer zone by installing one-way doors in burrow entrances. These doors shall be in place at least 72 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat, if the site is occupied by burrowing owl, shall be provided following the guidance in CDFW's Staff Report on Burrowing Owl Mitigation.

Where possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow. An endoscope (fiber optic camera) should also be used to scope the burrow in front of the excavation. Occupied burrows that are excavated need to be replaced at a 2:1 ratio if there are already suitable burrows present nearby.

Should burrowing owl be located during the pre-construction survey, mitigation for direct impacts to 198.4 shall be fulfilled through conservation of suitable burrowing owl habitat through the purchase of credits at a minimum of 1:1 in-kind habitat replacement of equal or better functions and values to those impacted by the Project, for a total of 198.4 acres.

2 Background

2.1 Project Overview

The approximately 198.4-acre Project site, including the 86.4-acre Cordova Complex site, 75.7-acre Quarry at Pawnee site, and 36.3-acre off-site roadway improvements, is in the Town of Apple Valley, which is within the Victor Valley Region of San Bernardino County (Figure 1, Project Location). The Cordova Complex Site is located east of Dachshund Avenue, south of Cordova Road, west of Navajo Road, and north of Johnson Road. The Quarry at Pawnee Site is located at the southwest corner of Flint Road and Quarry Road. The proposed Project includes the construction and operation of two concrete, tilt-up construction, high-pile storage warehouse buildings. The proposed Cordova Complex warehouse building and Quarry at Pawnee warehouse building would each include construction of a warehouse building and associated improvements. Other on-site improvements at each site would include surface parking, including parking spaces for trucks, electric vehicles (EVs), and bicycles; and construction of detention basins for onsite drainage and stormwater/rain capture.

2.2 2022/2023 Biological Survey Results

Biological resource surveys of the 198.4-acre Project, which includes the project sites and off-site improvement areas, were conducted October 2022 through September 2023 by Glenn Lukos Associates, Inc. (GLA 2016).

Although the Project site contains open scrub areas that may support burrowing owls, this species was not observed during focused surveys. However, numerous burrows that are potentially suitable for nesting were mapped within both the Cordova Complex site and Quarry at Pawnee sites, (Figure 2, Burrow Locations). Mapped burrows were at least 4 inches in diameter, and all were natural earthen burrows. No active burrowing owl sign (i.e., feathers, whitewash, or pellets) were observed within the Project. While focused burrowing owl surveys completed by GLA in March-June of 2023 were negative, suitable habitat for burrowing owl exists within the Project, and the species could occupy the Project prior to construction. Pursuant to the California Fish and Game Code and the Migratory Bird Treaty Act, a pre - construction survey in compliance with the California Department of Fish and Wildlife's (CDFW) 2012 Staff Report on Burrowing Owl Mitigation (2012 Staff Report) (CDFG 2012) would be necessary to re-evaluate the locations of potential burrowing owl burrows within the project limits so that impacts to owls and active owl nests can be avoided or minimized. Consistent with **MM-BIO-9**, a pre-construction survey for burrowing owl will be conducted in areas supporting potentially suitable habitat no more than 14 days prior to the start of construction activities, and a second survey will be completed within 24 hours of the start of site preparation or grading activities.

2.3 Mitigation Measures

The project would result in the permanent loss of 198.4 acres of suitable habitat for burrowing owl, specifically 189.8 acres of creosote bush scrub, and 8.6-acres of disturbed habitat. If the site is found to support burrowing owl during the pre-construction survey, then the project will be required to mitigate for this habitat loss at a 1:1 ratio. Mitigation measures include MM-BIO-9 Pre-Construction Surveys for Burrowing Owl Surveys.

If passive displacement of burrowing owl is implemented, the abovementioned purchase of credits at a CDFW-approved mitigation bank or other conservation mechanism approved by CDFW will mitigate for direct impacts to displaced burrowing owls.

2.4 Qualified Biologist

In accordance with the 2012 Staff Report, a qualified biologist meets the following minimum qualifications (CDFG 2012):

- Familiarity with the species and its local ecology
- Experience conducting habitat assessments and non-breeding- and breeding-season surveys, or experience with these surveys conducted under the direction of an experienced surveyor
- Familiarity with the appropriate state and federal statuses related to burrowing owls, scientific research, and conservation
- Experience with analyzing impacts of development on burrowing owls and their habitat

In accordance with the 2012 Staff Report, a qualified biologist will perform the burrowing owl surveys as outlined in MM-BIO-9. Occupied burrows will not be disturbed during the nesting season. Occupied burrows will also not be disturbed during the non-nesting season until a qualified biologist verifies that either (1) nesting has not begun or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.

3 Avoidance and Minimization Measures

3.1 Pre-Construction Burrowing Owl Surveys

In accordance with **MM-BIO-9**, a qualified biologist (see Section 2.4) will conduct surveys of the Project site and off-site improvement areas and within a 150-meter buffer, where legally accessible, no more than 14 days prior to the start of construction activities and again within 24 hours of the start of site preparation or grading. The surveys will identify active wintering or breeding burrowing owls within these areas.

The survey methods are detailed in the 2012 Staff Report (CDFG 2012) and will consist of walking parallel transects 7 to 20 meters apart over the entire survey area and noting all burrowing owls present and any suitably sized burrows (i.e., 4 inches or greater in diameter) with burrowing owl sign (e.g., whitewash, feathers, pellets). The results of the surveys will be submitted to CDFW.

If burrowing owls or active burrowing owl sign are detected during pre-construction surveys, the qualified biologist or monitoring biologist will coordinate with the contractor to avoid and minimize impacts to burrowing owl by implementing the measures described below.

3.2 Buffer Distances

If occupied burrowing owl burrows are detected outside of the project site and off-site improvement areas but within the 150-meter buffer during the pre-construction surveys, the active burrow will be flagged to include a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season, or as otherwise determined by the qualified biologist. The buffer will be staked and flagged. Ground-disturbing activities during the breeding season will be restricted within the buffer. Depending on the level of disturbance, a smaller buffer may be established in consultation with the lead agency.

The active burrows will be monitored to ensure that the buffer distance is effective. Effective buffers minimize direct impacts by providing space between the owl and the construction activity. In addition, effective buffers minimize indirect impacts by decreasing sound and visual disturbance for the animal. A monitoring biologist will be present during all initial activities adjacent to burrowing owl buffers to monitor bird behavior. In any case where a burrowing owl shows signs of stress or disturbance due to construction activities, all activities in the immediate vicinity will be halted and the buffer distance and construction activities will be re-evaluated. In accordance with **MM-BIO-9**, no project activities will be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer will remain in place until it is determined that any nesting activity has ended and/or occupied burrows have been vacated.

3.3 Burrow Screening

In cases where it is infeasible to maintain a 160-foot buffer during the non-breeding season or a 250-foot buffer during the breeding season due to environmental, topographic, or construction constraints, the buffer may be reduced and burrows screened to minimize potential impacts to burrowing owls, where appropriate and feasible. This strategy involves screening burrows by installing hay bales, plywood, and/or other fencing material to create a visual and auditory barrier between construction activities and the active burrows. If this method is used, then care must be taken to reduce potential raptor perch locations near the burrow opening. Biological monitors will

determine if the topography of a specific site is appropriate for the use of this technique, and whether this technique will be effective at reducing disturbance.

During the breeding season, hay bales will be stacked three bales high and 50 feet wide. During the non-breeding season, hay bales will be stacked two bales high and 50 feet wide. All hay bales used within the 150-meter buffer of the project site and off-site improvement areas will be certified as weed free. Perches near the burrow will remain within the sheltered area of the bales, and the bales will not be closer than 2 or 3 feet from the occupied burrow and will be placed as far from the active burrow as possible, outside the nearest work area. During and following installation of the shelter, biological monitors will be present for all ground-disturbing activities within the area between the recommended buffer and the edge of the reduced buffer. Biological monitors will evaluate and make adjustments to the buffer and/or shelter to ensure that impacts to burrowing owl are minimized and the owls are not showing signs of stress or disturbance.

When determining an appropriate buffer setback distance, the qualified biologist will take into consideration any data collected on the individual sensitivities of the burrowing owls present at the project site. This data will be used as a baseline to compare the behavior of burrowing owls within no-disturbance buffers that are smaller than the recommended distances. Biological monitors will have the authority to stop construction or sheltering activities that are disturbing sensitive species, and to make changes to the shelters and buffers in accordance with these guidelines to increase protection of the burrowing owls, if necessary.

Documentation of the installation of a shelter will include the following: where and when the shelter was installed, how long it will be required, anticipated level of construction activity, pictures of the shelter, schematic/pictures of installation, a description of the installation, and a description of site conditions. The description should include surrounding vegetation, topography of the area, animals present at the burrow, and line-of-sight conditions between the burrow and construction activities. This information and a status of the shelters will be described in the monthly reports (see Section 5.2, Reporting Requirements).

3.4 Excavation of Inactive Burrows

Excavation of inactive burrows, confirmed inactive based on wildlife camera monitoring, will help deter burrowing owls from occupying construction areas. Pre-construction surveys (described above) will be conducted within the project site to determine if burrows are actively being used. If burrows are suitably sized (i.e., 4 inches or greater in diameter), game cameras will be installed at the entrance for 3 days to confirm owl presence. Inactive burrows will be excavated and refilled by a qualified biologist. To prevent injury to wildlife that might be inside the burrow, all excavation of inactive burrows will be performed using hand tools, escape routes will be installed (flexible plastic pipe), and a mirror or camera will be used to scope during the excavation of all burrows. The excavation of inactive burrows will occur prior to clearing or grading activities.

4 Passive Displacement

If an active burrow is identified in an area where there is potential for it or the tunnel structure to be destroyed or irreversibly affected by construction, and the owl would be in danger, and shelter-in-place, setback distances, and avoidance will not be effective or possible, then passive displacement will be implemented. To the extent feasible, passive displacement will take place such that it is in sync with owl natural dispersal cycles (i.e., early in the non-breeding season, when owls exhibit less site-fidelity) (Hennessy et. al. 2020; Le Gouar et. al. 2012).

4.1 Determining Vacancy

Passive displacement will only occur outside of the breeding season (September 1 through January 31) after a qualified biologist verifies that juveniles from the burrow are foraging independently and capable of independent survival, or the owls have not begun nesting. If exclusion will occur immediately (within 1 week) after the end of the breeding season (August 31), daily monitoring will be conducted for 1 week to confirm that young have fledged prior to exclusion. Similar to the excavation of inactive burrows, a mirror or camera will be used to scope all previously active burrows to ensure burrows are not occupied by eggs or young.

4.2 Excavation of Active Burrows

Burrowing owls will be excluded from currently occupied burrows by installation of a one-way door in the original burrow and all connected legally accessible surrounding potentially active burrows within 160 feet – provided that they are at risk by development. One-way doors will remain in place at least 72 hours before excavation. The one-way doors will be monitored for exiting or trapped animals via a game camera. Once a qualified biologist can determine by site surveillance that the old burrow is vacant (i.e., 3 days of negative game camera results), with no sign of fresh use by wildlife, including tracks, scat, or recent excavation, the burrows will be checked with an endoscope (fiber optic camera) immediately prior to excavation to verify status. Sections of flexible plastic pipe will be inserted into the tunnels during excavation to maintain an escape route for any animals that could be inside the burrow. Each burrow will be collapsed and refilled with dirt and/or rocks to prevent reoccupation of the burrows. Photographs will be taken of the excavation and closure of the burrow to demonstrate success and sufficiency. Construction will occur as soon as possible following passive relocation and burrow collapse to discourage burrowing owls from re-occupying the disturbance area.

Prior to burrow collapse, the qualified biologist will obtain confirmation that the burrows are empty of wildlife, document the installation of one-way doors 72 hours in advance of burrow excavation, and remove other potential burrow surrogates or refugia on the project site. Burrows that are not threatened by collapse due to the project (i.e., burrows outside the construction area) will not be passively excluded or dismantled.

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5 Monitoring and Reporting

5.1 Monitoring Requirements

In accordance with the 2012 Staff Report, monitoring will occur before, during, and after exclusion of burrowing owls. In accordance with MM-BIO-9, if exclusion occurs, a qualified biologist will conduct daily monitoring for 3 days to confirm owls have vacated the burrows. Monitoring will be performed for a minimum of 2 hours between the periods of 2 hours before sunset to 2 hours following sunset, or 1 hour before sunrise to 2 hours following sunrise, corresponding with the time when burrowing owls are most active; this monitoring time will be extended if owls are active longer. Biologists will examine the collapsed burrows and survey for owl-related impacts and new burrows in the surrounding area. The results of these monitoring efforts and an evaluation of the success of the passive displacement efforts will be included in the monthly compliance reports, along with any needed remedial measures to avoid and/or minimize impacts.

5.2 Reporting Requirements

Pre-Construction Clearance Survey Reports

A report will be submitted to the lead agency documenting the results of the pre-construction surveys. The report will describe the methods and results of the clearance surveys and will serve as notification as to whether owl passive relocation is necessary.

Monthly Reports

If avoidance or passive relocation is implemented, monthly reports will be prepared for submittal to the lead agency. The reports will summarize the construction activities that occurred with the potential to impact burrowing owls, any injuries or fatalities of burrowing owls, the effectiveness and practicality of the avoidance and minimization measures implemented, and recommendations for modifying the protection measures. If passive relocation of burrowing owls is performed, the monthly reports will also include the following: the total number and locations of burrows collapsed, a map of those locations, photographs of the excavation and closure of the burrows, the number and activity of the owls observed leaving the burrows to be excavated, and the methods used to continually make the site inhospitable to burrowing owls and fossorial mammals.

Final Compliance Report

A final compliance report will be submitted to the lead agency summarizing the effectiveness of the mitigation measures and the level of burrowing owl take associated with the project.

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6 References

CDFG (California Department of Fish and Game). 2012. *Staff Report on Burrowing Owl Mitigation*. State of California, Natural Resources Agency. http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html.

Dudek. 2024. "Section 4.3 Biological Resources for the Inland Empire North Logistics Center, Apple Valley". Encinitas, California: Dudek. January 2024.

Hennessy, S., C. Wisinski, N. Ronan, C. Gregory, R. Swaisgood, and L. Nordstrom. 2020. *Assessing California's Relocation Guidelines for Burrowing Owls Impacted by Renewable Energy Development*. California Energy Commission. Publication Number: CEC-500-2020-051. August 2020.

Le Gouar, P., J.B. Mihoub, and F. Sarrazin. 2012. "Dispersal and Habitat Selection: Behavioural and Spatial Constraints for Animal Translocations." In *Reintroduction Biology: Integrating Science and Management*, edited by J.G. Ewen, D.P. Armstrong, K.A. Parker, and P.J. Seddon, 138–164.

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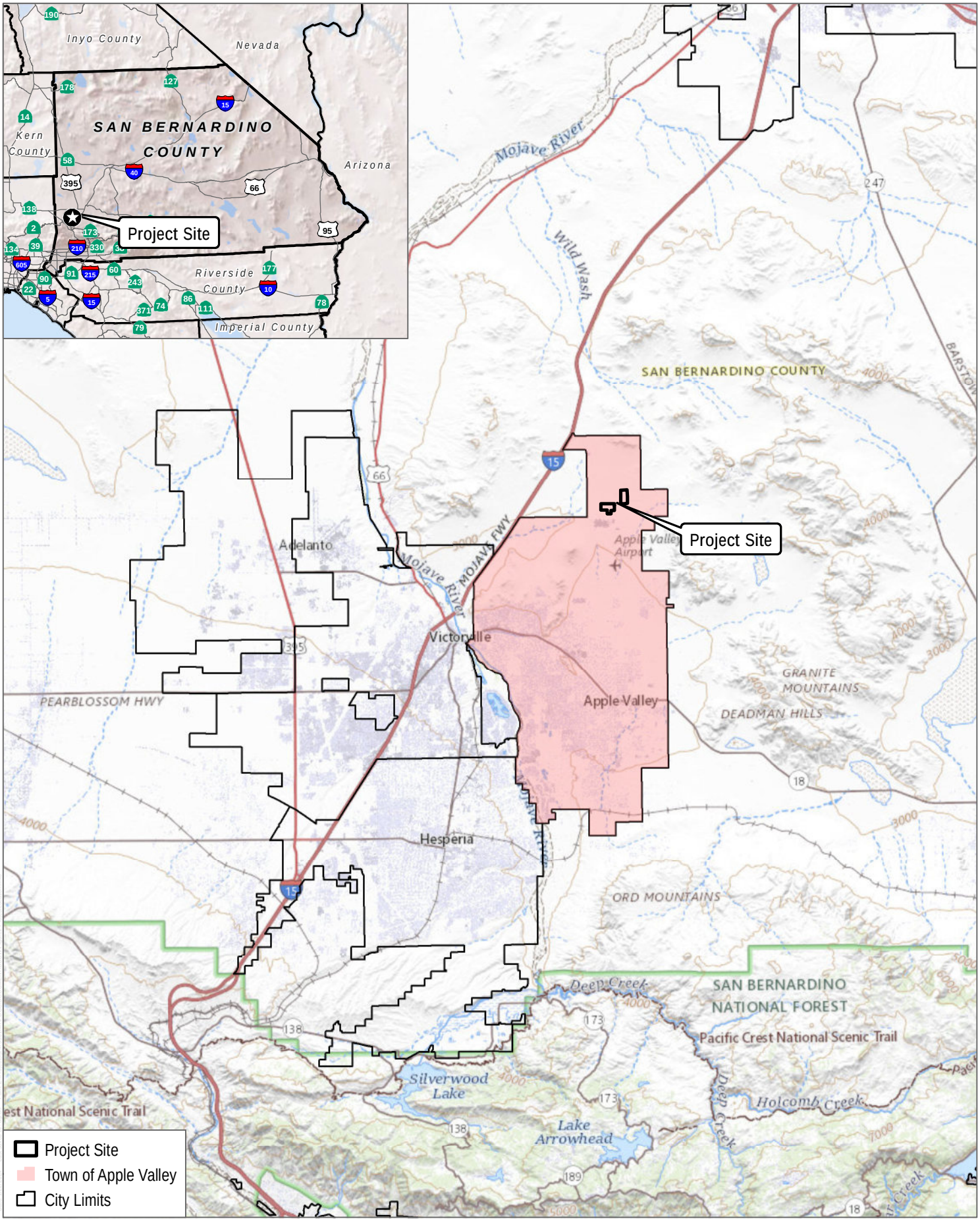

SOURCE: USGS National Topographic Map

DUDEK

0 2.5 5 Miles

FIGURE 1

Project Location

Cordova Complex and Quarry at Pawnee Warehouse Projects

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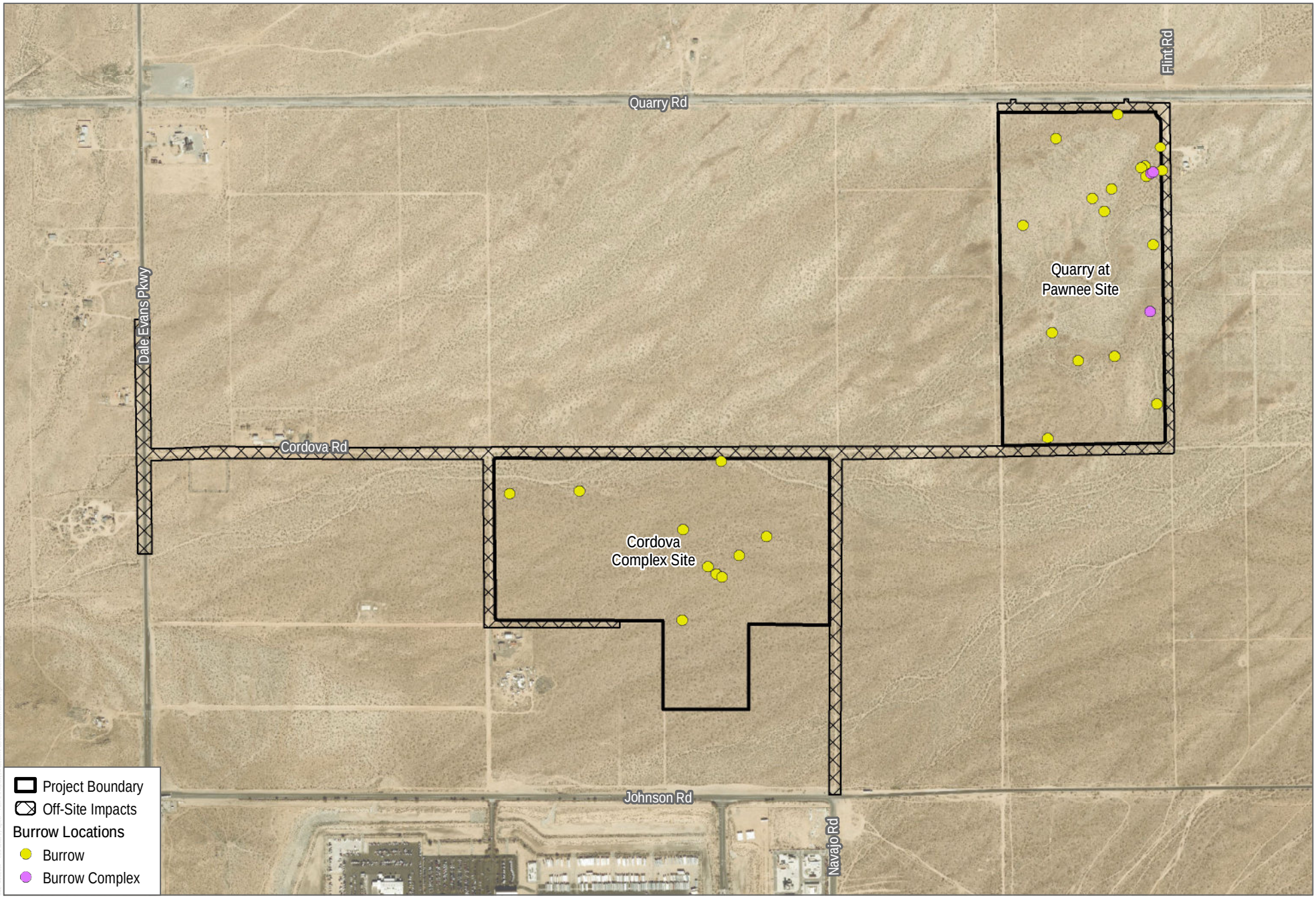

SOURCE: GLA 2024; County of San Bernardino; Open Street Map; ESRI World Imagery

DUDEK

0 500 1,000 Feet

FIGURE 2

Burrowing Locations

Cordova Complex and Quarry at Pawnee Warehouse Projects

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