Lake Creek Logistics Center Project

January 2025

General Biological Resources Assessment

Apple Valley North United States Geological Survey
7.5-MinuteTopographic Quadrangle Map

Prepared By

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APPENDICES

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

NOREAS Inc. (NOREAS) is pleased to provide this General Biological Resources Assessment for the Lake Creek Logistics Center Project (hereafter referred to as the "Project"). The Project Site is limited to roughly 256-acres, located in Apple Valley, an incorporated town in the Victor Valley, of San Bernardino County, California (Figures 1 and 2). The Project is located on the Apple Valley North U.S. Geological Survey (USGS), 7.5-minute quadrangle map, San Bernardino Meridian, Township 6 North and Range 3 West, within Sections 22, 23, 26, 27, 28, 33, 34, and 35. This document details the methods and results of baseline biological resources surveys for the Project. For the purposes of this report, the "study area" includes the Project Site, plus a 500-foot buffer. (Figure 2). The intended use of this document is to disclose and evaluate the Project Site's biological conditions, and to determine the potential for occurrence of common and special-status species[1], and their habitats within it.

The Project is not collocated with any United States Fish and Wildlife Service (USFWS) designated critical habitat. No nesting birds, remnant raptor nests, or bat guano were detected within the Project Site either. The study area also includes substantial anthropogenic disturbances (e.g., off-road vehicle routes, an abundance of trash from illegal dumping, spent shell casings, a paved road, and cleared lands). Additionally, the western side of the Project is bound by an active runway at the Apple Valley Airport.

Nonetheless, the substantive habitat requirements needed to support the following special status species were observed within portions of the Project Site: Le Conte's thrasher (*Toxostoma lecontei*), Bendire's thrasher (*Toxostoma bendirei*), Desert tortoise (*Gopherus agassizii*), Mojave monkeyflower (*Diplacus mohavensis*), Desert cymopterus (*Cymopterus deserticola*), Mohave ground squirrel (*Xerospermophilus mohavensis*), Beaver Dam breadroot (Pediomelum castoreum), White pygmy-poppy (Canbya candida), Coast horned lizard (*Phrynosoma blainvillii*) and Barstow woolly sunflower (*Eriophyllum mohavense*). With deference to the aforementioned species, targeted survey and habitat assessment efforts were performed for raptors and other nesting birds, herpetofauna, small mammals, wetlands and waterways.

The only special status wildlife species detected within the Project Site is the Burrowing Owl, and it was not consistently observed. Additionally, the owl was not part of a breeding pair, but it did sporadically occupy a burrow throughout the survey period. The lack of breeding Burrowing Owls and consistent observations within the study area is likely a result of the depauperate landscape, anthropogenic disturbance regime (adjacent active airfield, paved road, etc.) and the presence of owl predators (e.g., Red-Tailed Hawk [*Buteo jamaicensis*], Cooper's hawk [*Accipiter cooperii*], Turkey vulture [*Cathartes aura*], Common raven [*Corvus corax*], American crow [*Corvus brachyrhynchos*], Coyote [*Canis latrans*], Mojave rattlesnake [*Crotalus scutulatus*], and Gopher snake [*Pituophis catenifer catenife*]). Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, no breeding or paired birds were detected. Therefore, with the use of avoidance and minimization measures, detailed within Section 6.0 below, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional populations, of them. However, notable quantities of Branched Pencil

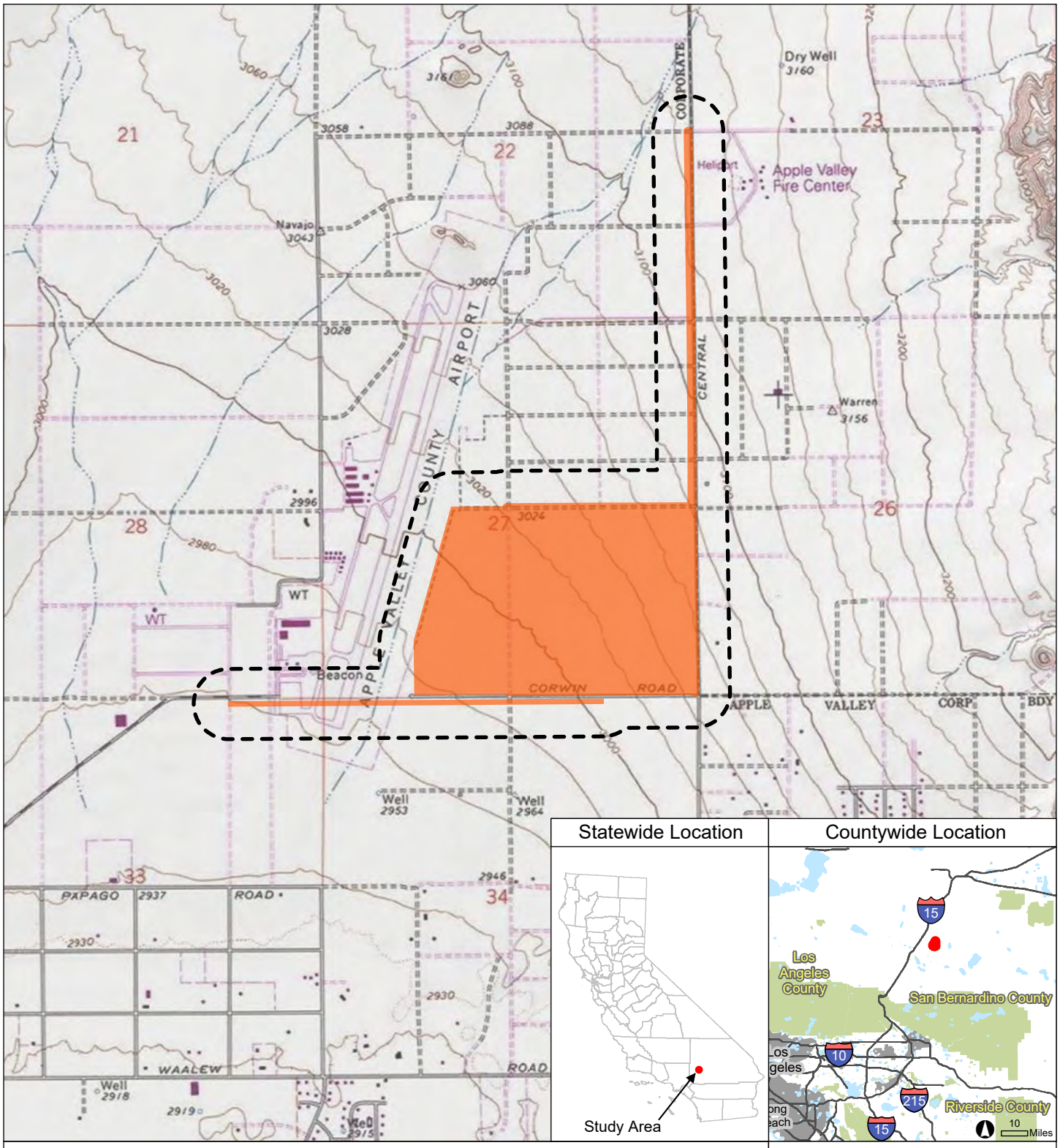
[1] For the purposes of this analysis, "special-status species" refers to any species that has been afforded special protection by federal, state, or local resource agencies (e.g., U.S. Fish and Wildlife Service [USFWS], California Department of Fish and Wildlife [CDFW]) or resource conservation organizations (e.g., California Native Plant Society [CNPS], etc.). The term "special-status species" excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, MBTA Section 10 protected species are afforded avoidance and minimization protections per state and federal requirements.

Cholla (*Cylindropuntia ramosissima*), Golden Cholla (*Cylindropuntia echinocarpa*) and Mojave Yucca (*Yucca schidigera*) were detected within the Project Site. But more importantly, no live Joshua Trees (*Yucca brevifolia*) were detected within the Project Site.

Regarding the aforementioned species, they are all of limited distribution - or occur infrequently throughout California, and their status is therefore monitored by resource agencies. As such, these species could be significant locally with deference to preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA) - based on CEQA Guidelines §15125 (c), and/or §15380. To that end, measures are recommended for implementation as a means of avoiding and minimizing adverse effects to common and special status species that have a reasonable presumption of occurrence within the Project Site, and on adjacent lands.

2.0 PROPERTY DESCRIPTION & LOCATION

For the purposes of this document, the “study area” includes the Project’s proposed ground disturbance footprint (Project Site) and a buffer (Figure 2). The Project Site can be found on the Apple Valley North United States Geological Survey (USGS) 7.5-MinuteTopographic Quadrangle Map (USGS 1984).



The Study Area is located in San Bernardino County on the Apple Valley North USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 6N, Range 3W, in Sections 22, 23, 26, 27, 28, 33, 34, 35;

Center coordinates (WGS 1984): 117.298°W 34.354°N

Figure 1. Regional Location

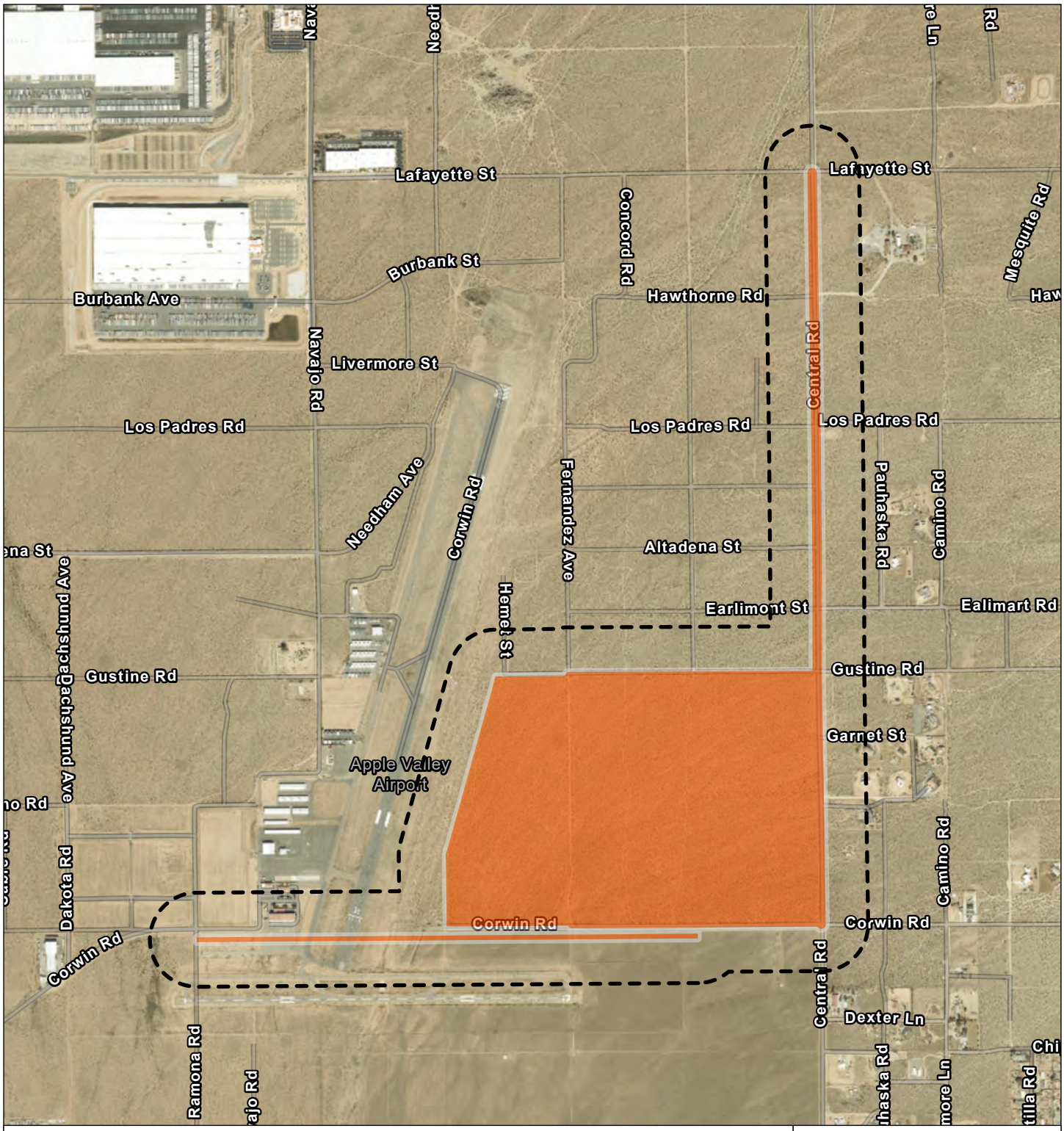


Figure 2. Site Vicinity

3.0 FOCUSED STUDY/SPECIES OF CONCERN

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans, databases and relevant documents were reviewed to determine the locations and types of biological resources[2] that have the potential to exist within - and adjacent to, the study area. Biological resources were evaluated within several miles of the Project Site.

The materials reviewed included - but were not limited to, the following:

- ✓ USFWS Critical Habitat Mapper and File Data (USFWS 2024a);
- ✓ USFWS San Bernadino County Field Office Species List (USFWS 2024b);
- ✓ USFWS National Wetlands Inventory database (USFWS 2024c);
- ✓ Regional South Coast Missing Linkages Project Report (South Coast Wildlands 2008);
- ✓ California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW) (CDFW 2024);
- ✓ Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2024a);
- ✓ California Native Plant Society (CNPS) Electronic Inventory (CNPS 2024); and
- ✓ Aerial Photographs (Microsoft Corporation 2024).

[2] For the purposes of this analysis, "biological resources" refers to the plants, wildlife, and habitats that occur, or have the potential to occur, within the study area.

4.0 METHODS

To support the analysis detailed within Section 3.0 above, pedestrian-based field surveys were performed to assess land cover, general and dominant vegetation communities, habitat types, and species present within communities. Community descriptions were based on observed dominant vegetation composition, and derived from the criteria and definitions of widely accepted vegetation classification systems (Holland 1986 and Sawyer et al. 2009).

Plants were identified to the lowest taxonomic level sufficient to determine whether the species observed were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to The Jepson Manual (Baldwin et al. 2012).

The presence of a wildlife species was based on direct observation or detection of wildlife sign (e.g., tracks, burrows, nests, scat, skeletal remains or vocalization). Field data compiled for wildlife species included scientific name, and common name. Wildlife of uncertain identity were documented and subsequently identified from specialized field guides and related literature (Burt and Grossenheider 1980; Halfpenny 2000; Sibley 2000; Elbroch 2003 and Stebbins 2003).

Additionally, the Project Site was assessed for its potential to support special-status species based on habitat[3] suitability comparisons with reported occupied habitats and the following potential for occurrence definitions were utilized within Appendix A:

- **Absent [A]** – Species distribution is restricted by substantive habitat requirements which do not occur – or are negligible within the Project Site, and no further survey or study is necessary to determine likely presence or absence of this species.
- **Habitat Present [HP]** – Species distribution is restricted by substantive habitat requirements which occur within the Project Site, and further assessment may be necessary to determine likely presence or absence of species.
- **Present [P]** – Species or species sign were observed within the Project Site, or historically has been documented within Project limits.
- **Critical Habitat [CH]** – The Project Site is located within a USFWS-designated critical habitat unit.

4.1 Focused Assessment

While additional surveys and assessments specifically targeted certain species of nesting birds like raptors (e.g., Burrowing Owl), herpetofauna (such as Desert Tortoise), small mammals (i.e., Mohave ground squirrel), Crotch's bumblebee (insect), wetlands and waterways, it's crucial to note the ecological interconnections present. Many species, even those not directly under our survey lens like Le Conte's thrasher, Mojave monkeyflower, Coast horned lizard, etc., share habitats with the targeted species. This overlap is due to similarities in the vegetation communities that cater to multiple species, both common and special status alike. Furthermore, many birds and annual plants share synchronized breeding and blooming cycles. Consequently, while we might have been focused on a specific species, but the very nature of shared habitats and life cycles means that our comprehensive surveys and assessments within the Project site would inherently detect and account for a broader spectrum of species than targeted. Hence, any species that shares habitat, reproductive or blooming cycles with our targeted species, would have been detected in our 2022, 2023 and 2024 surveys. Detailed methods,

[3] A "habitat" is defined as the place - or type of locale, where a plant or animal, naturally or normally lives and grows.

results, and assumptions can be found in Appendices F, G, H, I and J. A summary for each targeted species' methods is also provided in the subsequent subsections.

4.1.1 Special Status Plant Species

Plant survey methods were derived from the standardized guidelines issued by the USFWS (USFWS 2000), CDFW (CDFW 2009) and CNPS (CNPS 2001). This was done to demonstrate compliance with the County of San Bernardino's Plant Protection and Management Ordinances, and California Desert Native Plants Act. Field surveys were specifically conducted to determine the presence or absence of special status plant species, but the surveys were floristic[4] in nature. Surveys were conducted during the appropriate blooming period to maximize the potential for detection of common and special status plants. Survey methods, results, and assumptions are presented within Appendix E.

4.1.2 Burrowing Owl

Survey methods for Burrowing Owl were derived from generally accepted professional standards, including – but not limited to, the 1993 California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (CBOC 1993), the 1995 and 2012 California Department of Fish and Game Staff Reports on Burrowing Owl Mitigation (CDFG 1995 and 2012). Detailed Burrowing Owl survey methods, results, and assumptions are presented within Appendix F.

4.1.3 Desert Tortoise

Survey methods for Desert Tortoise were derived from the published USFWS regional guidelines (Desert Tortoise Council 1994, revised 1999, USFWS 1992, and USFWS 2010 protocol for Preparing for Any Action That May Occur within the Range of the Mojave Desert Tortoise). Detailed Desert Tortoise survey methods, results, and assumptions are presented within Appendix G.

4.1.4 Mohave Ground Squirrel

Field surveys and assessments for Mohave Ground Squirrel were led by Philippe Vergne MS in October of 2022 and January of 2023. Mr. Vergne was the primary investigator as he holds a USFWS permit to conduct field studies of Mohave Ground Squirrel (Recovery Permit # TE068072-3) and a California Department of Fish and Game Memorandum of Understanding for the Mohave Ground Squirrel. Detailed Mohave Ground Squirrel assessment methods, results, and assumptions are presented within Appendix H. Please note that these surveys did not include Central Road or Corwin Road, as those are paved roads within the study area.

4.1.5 Crotch's Bumblebee

Survey methods for Crotch's Bumblebee (CBB) were derived from generally accepted professional standards. Evaluation methods for assessing the suitability of the Project Site for CBB involved a thorough site visit to determine the presence of essential habitat elements. This approach included examining whether the Project Site had suitable nesting conditions and assessing the availability of diverse nectar and pollen resources critical for CBB colony development. Additionally, the assessment considered the Project's location from natural habitats that could support CBB and evaluated the surrounding landscape's composition and proximity to determine the likelihood of CBB occurrence.

4.2 Evaluation of Wetlands and Waterways

The study area was examined to assess the presence of an ordinary highwater mark (OHWM), hydrophytes, distinct soils, riparian and riverine resources, lakes, rivers, streambeds, surface waters and wetlands, vernal pools, discernable bed and bank signatures, aquatic resources, or evidence of a change

[4] Focused on the distribution, number, types, and relationships of plant species in an area, or region.

in vegetation type, density, or vigor. These field surveys were performed in 2022, 2023 and 2024 to map waters potentially regulated by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and streambeds and associated riparian habitat as regulated by the CDFW. This evaluation was completed using data acquired from current and historic imagery, hydrologic databases, analytic tools, and physical on the ground analyses and measurements by subject matter experts. Detailed delineation methods, results, and assumptions are presented within Appendix I and J.

5.0 GENERAL BIOLOGICAL SURVEY RESULTS

Weather conditions during the 20, 21 and 22 April, and 19, 20, 21 and 22 October 2022, 03 and 04 January, 18, 19, 25, 27 and 28 March, 09, 10 and 11 April, 08, 10, 12 and 22 May, and 17, 22 and 24 June 2023 and 04 and 18, September, and 04 and 05 December, 2024 surveys included clear to cloudy skies, temperatures ranging from 52–98°F, with winds fluctuating from 0 to 20 miles per hour (mph). Representative photos of the study area are provided in Appendix B.

5.1 Vegetation Communities and Land Cover Types

Two vegetation community and land cover types were observed within the study area: Creosote Bush Scrub and Developed/Disturbed/ (Figure 3). These types are described below.

Creosote Bush Scrub

Creosote Bush Scrub within the study area was dominated by widely spaced creosote (*Larrea tridentata*), white bursage (*Ambriosa dumosa*), cheesebush (*Ambrosia Salsola*), and sweetbush (*Bebbia juncea*) with bare ground between them. Many species of herbs and annuals may appear depending on sufficient fall and winter rains. Other common species present included wall barley (*Hordeum murinum),* red brome (*Bromus madritensis subsp. rubens*), and Mediterranean grass (*Schismus barbatus*). There are also erosional signatures, rills, and tire ruts throughout this type.

Developed/Disturbed

Developed or disturbed lands include locales that have been disked, cleared, paved, or otherwise altered by human activities. This cover type within the study area includes off-highway vehicle routes, paved roads, an abundance of trash from illegal dumping, spent shell casings and cleared lands. Common non-native plants species within this land cover type included red brome and Mediterranean grass.

5.2 Wildlife

Wildlife species observed within the study area consisted of commonly-occurring species - including, but not limited to, house finch (*Haemorhous mexicanus*), western meadowlark (*Sturnella neglecta*) common raven (*Corvus corax*), and cottontail (*Sylvilagus audubonii*). Wildlife detected during the 2022, 2023 and 2024 surveys are identified in Appendix D.

5.3 Special-Status Plants

No Federal or State listed plant species were observed within the Project Site during the 2022, 2023 and 2024 field surveys. However, several have been documented within 10 miles of the Project (Figure 4). The Project Site includes no USFWS-designated critical habitat for plants (Figure 5). Based on the results of the targeted plant surveys (Appendix E), there are no special status plants present within the Project Site. But there are several species of native cactus within it. Special-status species known to occur within 10 miles of the Project, and their potential for occurrence, are detailed within Appendix A. Plant species observed during the field surveys are listed in Appendix C.

5.4 Special-Status Wildlife

No Federally listed wildlife species were observed within the study area during the 2022, 2023 and 2024 field surveys. The study area includes no USFWS-designated critical habitat for wildlife (Figure 5). Special-status species known to occur within 10 miles of the Project and their potential for occurrence are detailed within Appendix A, and Figure 4.

One Burrowing Owl was observed within the Project Site (Appendix F). Based on the results of the targeted Desert Tortoise surveys (Appendix G), Desert Tortoise is not present within the Project Site. Furthermore, suitable habitat for Mohave Ground Squirrel (Appendix H), was not detected during the surveys. Additionally, the Project Site lacks the essential habitat attributes (i.e., the physical and biological features) needed to support the Mohave Ground Squirrel (MGS) and CBB survival, and reproduction. Wildlife species detected during the surveys are listed in Appendix D. Summarized results for the Burrowing Owl, Desert Tortoise, CBB and MGS surveys are included below:

Burrowing Owl

One Burrowing Owl was observed in the Project Site and a burrow with indirect sign of owl activity was observed within the study area – but outside of Project limits, adjacent to Central Road during the surveys (Appendix F). The single owl was not consistently observed. Additionally, the owl was not part of a breeding pair, but it did sporadically occupy a burrow throughout the survey period. Two burrows contained owl sign such as pellets, excrement and feathers. Furthermore, numerous – albeit low quality potential burrows, and burrow complexes were also detected. The vast majority of the burrows observed lacked evidence of owl sign (i.e., tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, and nest burrow decoration materials). Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, no breeding or paired birds were detected. Therefore, with the use of avoidance and minimization measures, detailed within Section 6.0 below, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional populations, of them. The lack of Burrowing Owl observations within the study area is likely a result of the depauperate landscape, anthropogenic disturbance regime (adjacent active airfield, paved road, etc.) and the presence of owl predators (e.g., Red-Tailed Hawk, Cooper's hawk, Turkey vulture, Common raven, American crow, Coyote, Mojave rattlesnake, and Gopher snake (Appendix F).

Desert Tortoise

The Desert Tortoise was not detected during the survey and assessment efforts in 2022, 2023 or 2024. Anthropogenic interference has significantly diminished the habitat quality of the Project Site, making it unfavorable for tortoise habitation. In light of these findings, there is no presumption that Project implementation would harm individual Desert Tortoises, nor pose a threat to their local or regional populations (Appendix G).

Mohave Ground Squirrel

The MGS is not expected to be present within the Project Site. As the Project Site lacks the essential habitat attributes needed to support the species. The current vegetation composition, lack of a viable water source, and absence of a functional wildlife corridors between the Project Site and the closest core population, renders the Project Site unsuitable for the habitation of MGS. As a result, there is no presumption that Project implementation would either harm individual MGS, nor pose a threat to their local or regional populations (Appendix H).

Crotch's Bumblebee

The comprehensive assessment concludes that the Project Site and study area lack the essential habitat elements required for the survival and reproduction of CBB. The findings indicate that it is not reasonable to expect this Project Site to support a CBB population. This determination was based on the following:

- Lack of Suitable Foraging Habitat: CBB relies heavily on native flowering plants for foraging. In this case, the dominance of creosote and non-native species such as red brome and Mediterranean grass significantly reduces the availability of the native plants that provide

essential nectar and pollen. Without the availability of nectar-producing plants within the Project Site, it does not provide sufficient floral resources for feeding and nesting.

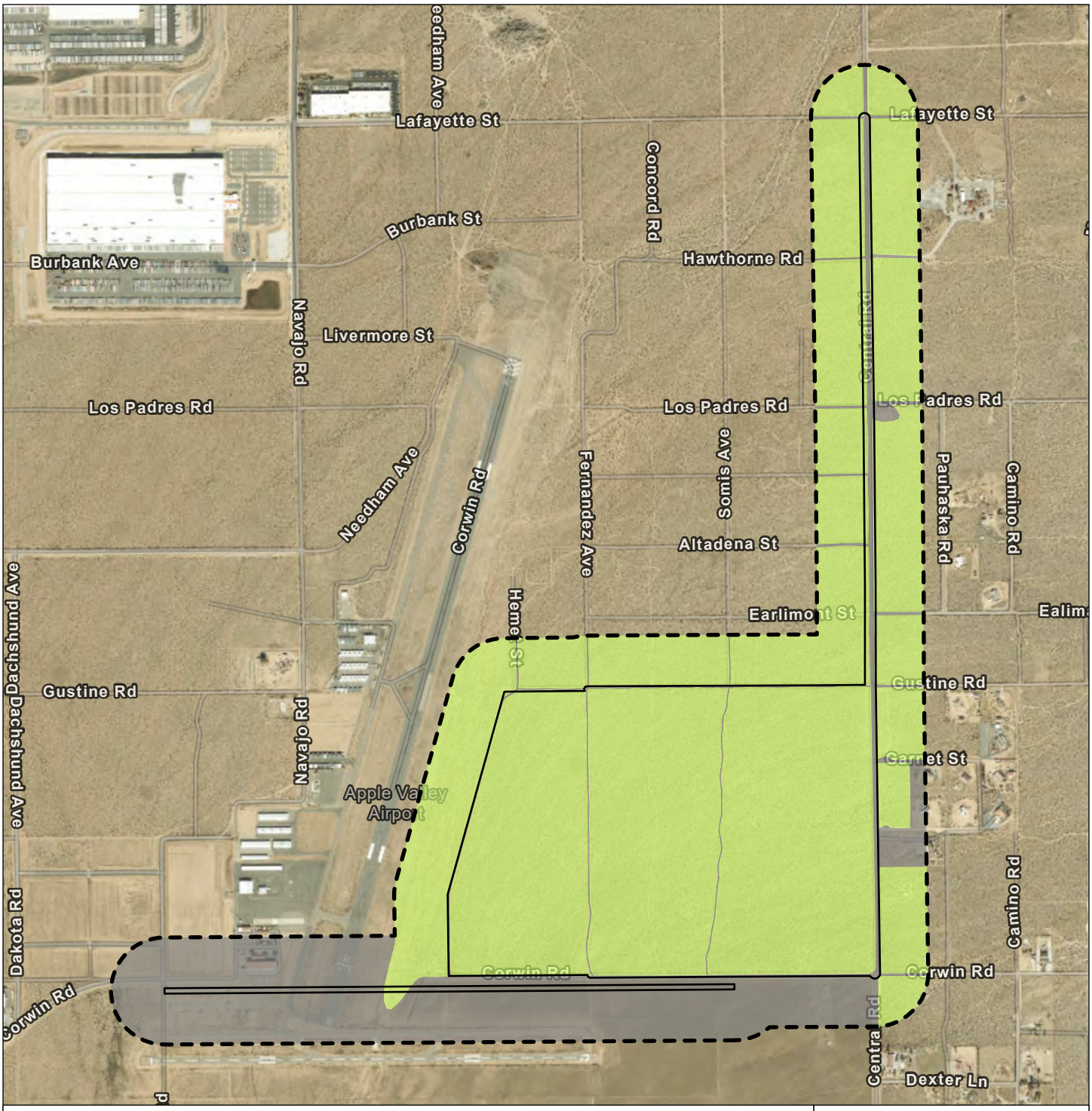
- Disturbed and Degraded Habitat: The CBB prefers open scrub, grasslands, and sage scrub that offer a diversity of flowering plants and undisturbed soil for nesting. The Project Site is highly disturbed with a noteworthy population of non-native plants and creosote. Therefore, without the availability of nectar-producing plants in the Project Site it is unlikely to provide the necessary conditions for nesting, overwintering, or foraging.
- Fragmented and Limited Native Vegetation: The limited availability of native plant species other than creosote and a lack of nectar-producing plants reduces the likelihood that CBB would be present or able to establish a foraging area within the Project Site.
- Proximity to Higher-Quality Habitat: Since the surrounding areas are similarly disturbed or developed, and also lack nectar-producing plants, the bee will not be able to establish a viable population, as it depends on connectivity to larger, intact habitats with the resources it needs. This Project site is isolated from high-quality foraging and nesting areas, so the chances of CBB utilizing the site are negligible.

In conclusion, the combination of a disturbed environment, amount of non-native vegetation, lack of suitable nesting sites, limited foraging opportunities due to the sparse native plant patches without nectar-producing plants would make the Project Site unlikely to support CBB. As the physical and biological features necessary for survival and reproduction of CBB include suitable nesting conditions, and a diverse range of nectar and pollen resources from specific native plant species. These resources must be successively available throughout the various seasons to support colony development. Given these conditions, the lack of diverse and durable native nectar species, combined with the Project Site's isolation from more suitable habitats, renders the Project inadequate for supporting CBB.

5.5 Wetlands and Waterways

The data presented herein implies that there are 1.9-acres of Waters of the State (WOTS) within the Project Site that are subject to regulation under Section 1600 (et seq.) of the CFG Code, and Section 13260 of the CWC. At nine (9) specific locales within the Project Site, ephemeral non-riparian streambeds which total 8,668 linear feet were mapped.

In sharp contrast, the delineation resulted in the identification of no Waters of the United States (WOTUS) within the Project Site. As there are no signatures within the Project Site that possess a relatively permanent - or continuous and uninterrupted, surface water connection to any (a)(1) through (a)(5) Waters, as described in Title 33 CFR Part 328(a). Explicitly, there is no physical evidence of a relatively permanent surface water connection from the Project Site to a Traditional Navigable Water [TNW]), to any Relatively Permanent Waters (RPW) or to the Mojave River. The Project Site is isolated from any TNW, RPW and the Mojave River, as is lacks a connection to the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events. Still, due to the nature of ephemeral flows in the area, and the arid environment, flows from the Project Site – which is east of the Apple Valley County Airport, lack a continuous or relatively permanent surface water connection to the Mojave River. As the signatures detected within the Project Site are ephemeral features that drain into intermittent channels or alluvial fans, where water quickly disperses, infiltrates or evaporates before making their way to any noteworthy watercourse. Detailed survey methods, results, and assumptions are presented within Appendix I and J.



Project Site (256.26 ac)

Study Area (586.91 ac)

Vegetation Communities

Creosote Bush Scrub (449.06 ac)

Developed/Disturbed (137.85 ac)

0 677 1,354 Feet

1 inch = 1,354 feet

Data Sources:
- ESRI World Imagery accessed Jan 2025, imagery date: 2/1/2023

Map Prepared: 1-15-25

Prepared by:
NOREAS
Environmental Engineering and Science

Figure 3. Vegetation Communities and Land Cover Types

Special-Status Species Occurrences

Map Code	Common Name *(Scientific Name)*	
	Plants	
P1	Barstow woolly sunflower	*Eriophyllum mohavense*
P2	Beaver Dam breadroot	*Pediomelum castoreum*
P3	Booth's evening-primrose	*Eremothera boothii ssp. boothii*
P4	desert cymopterus	*Cymopterus deserticola*
P5	Mojave beardtongue	*Penstemon clevelandii var. mohavensis*
P6	Mojave monkeyflower	*Diplacus mohavensis*
P7	San Bernardino aster	*Symphyotrichum defoliatum*
P8	southern mountains skullcap	*Scutellaria bolanderi ssp. austromontana*
P9	white pygmy-poppy	*Canbya candida*
	Invertebrates	
I1	Crotch's bumble bee	*Bombus crotchii*
I2	San Emigdio blue butterfly	*Plebulina emigdionis*
I3	Victorville shoulderband	*Helminthoglypta mohaveana*
	Mammals	
M1	hoary bat	*Lasiurus cinereus*
M2	Mohave ground squirrel	*Xerospermophilus mohavensis*
M3	Mohave river vole	*Microtus californicus mohavensis*
M4	pallid bat	*Antrozous pallidus*
M5	pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*
M6	Townsend's big-eared bat	*Corynorhinus townsendii*
	Birds	
B1	Bendire's thrasher	*Toxostoma bendirei*
B2	burrowing owl	*Athene cunicularia*
B3	Cooper's hawk	*Accipiter cooperii*
B4	golden eagle	*Aquila chrysaetos*
B5	Le Conte's thrasher	*Toxostoma lecontei*
B6	least Bell's vireo	*Vireo bellii pusillus*
B7	loggerhead shrike	*Lanius ludovicianus*
B8	prairie falcon	*Falco mexicanus*
B9	southwestern willow flycatcher	*Empidonax traillii extimus*
B10	summer tanager	*Piranga rubra*
B11	Swainson's hawk	*Buteo swainsoni*
B12	tricolored blackbird	*Agelaius tricolor*
B13	western yellow-billed cuckoo	*Coccyzus americanus occidentalis*
B14	yellow-breasted chat	*Icteria virens*
B15	yellow warbler	*Setophaga petechia*
	Reptiles	
R1	coast horned lizard	*Phrynosoma blainvillii*
R2	desert tortoise	*Gopherus agassizii*
R3	southwestern pond turtle	*Actinemys pallida*
	Amphibians	
A1	arroyo toad	*Anaxyrus californicus*
A2	California red-legged frog	*Rana draytonii*
	Fish	
F1	Mohave tui chub	*Siphateles bicolor mohavensis*

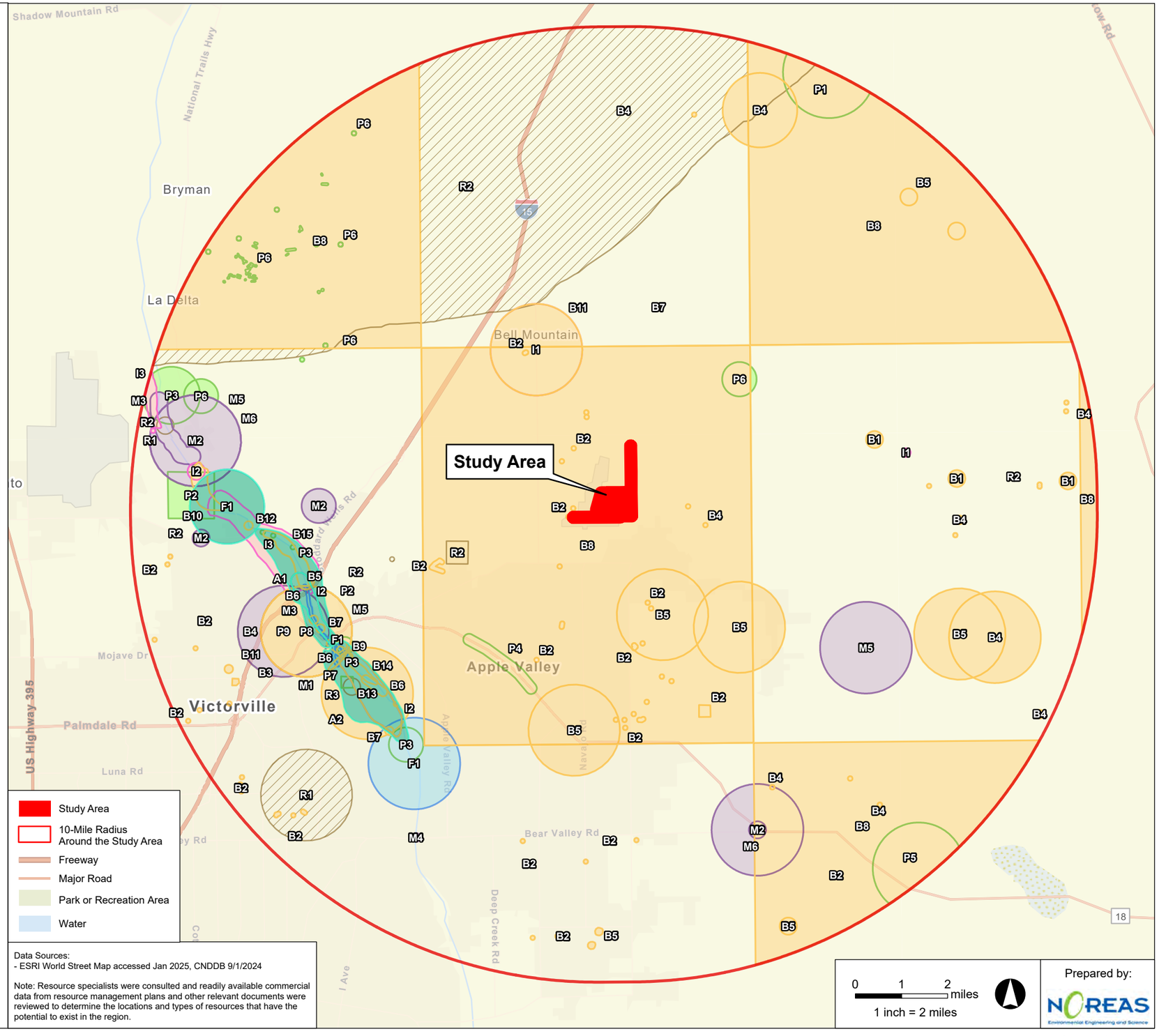
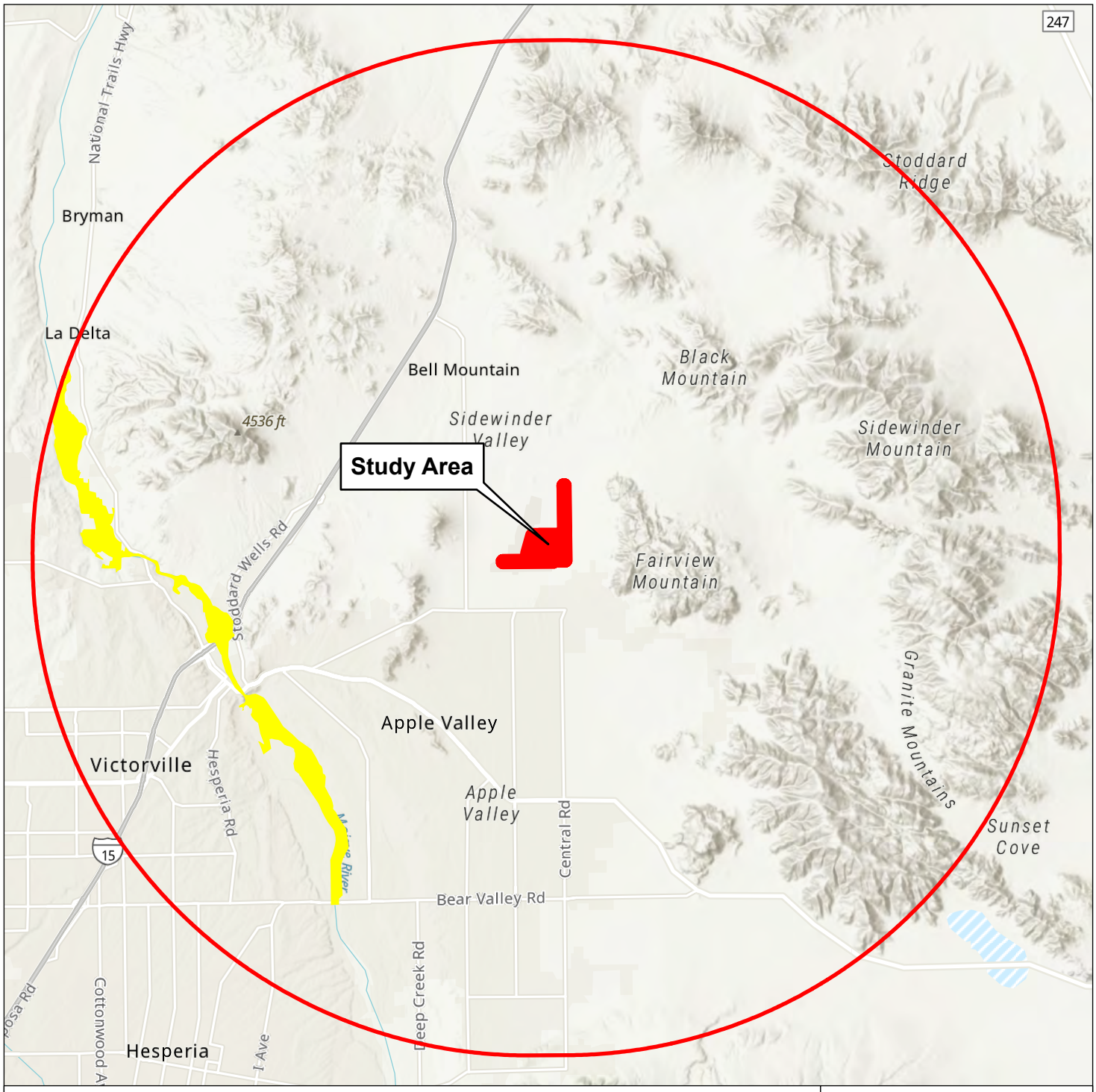


Figure 4. Literature Review



Study Area

10-Mile Radius Around the Study Area

Critical Habitat

Southwestern willow flycatcher *(Empidonax traillii extimus)*

0 1.5 3 Miles

1 inch = 3 miles

Data Sources:
- ESRI World Topographic Map accessed Jan 2025
- US Fish and Wildlife Service Critical Habitat accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS Environmental Engineering and Science

Figure 5. Critical Habitat

6.0 CONCLUSION AND RECOMMENDATIONS

The Project is not collocated with any USFWS designated critical habitat. No nesting birds, remnant raptor nests, or bat guano were detected within the Project Site either. The study also area includes substantial anthropogenic disturbances (e.g., off-road vehicle routes, an abundance of trash from illegal dumping, spent shell casings and cleared lands). Given the extent of human influence within the Project Site, any species currently using these lands would be assumed to be acclimated to the disturbance regime present.

Given the Project Site's current state, and surrounding urban infrastructure, it has low ecological value as a functional habitat for native flora and fauna. It also offers limited – if any, potential as a migration corridor for wildlife. In simple terms, the Project Site is severely movement constrained by the surrounding residential, and public infrastructure. Even so, the following measures are recommended for implementation during the Project to minimize and avoid adverse impacts to Burrowing Owl, Desert Tortoise and other biological resources:

- Adverse effects to regulated desert native plants should be avoided to the maximum extent practical as the Project Site contains desert native plants that are protected by the Town of Apple Valley Plant Protection and Management Policy (Chapter 9.76), the County of San Bernardino's Desert Native Plant Protection, and the state Desert Native Plants Act (i.e., Food and Agricultural Code 80001 et seq.). In accordance with the California Desert Native Plants Act and Town of Apple Valley Chapter 9.76 (Plant Protection and Management Policy), a native plant removal permit must be obtained from the Town prior to the removal of protected plants.

- No personnel working within Project limits will "take" or destroy plants, animals, or active nests (or eggs) of birds that are protected under the Federal[5] or State[6] Endangered Species Acts, California Fish and Game Code, and Migratory Bird Treaty Act (MBTA).

- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code any necessary vegetation clearing should take place outside of the typical avian nesting season for protected species.
    - If work needs to take place during the nesting season for protected avian species, a pre-activity clearance survey for nesting birds should be completed prior to the onset of ground disturbance.
    - An activity exclusion buffer zone around occupied nests should be maintained during physical ground disturbing undertakings. Once nesting has ended, the buffer may be removed.

- Due to the of presence of suitable habitat for the Burrowing Owl, a 30-day pre-construction survey for owls is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.) to

[5] The federal definition of "take" under the Endangered Species Act (ESA) is provided in Section 3(19) of the Act, codified at 16 U.S.C. § 1532(19). It states: "The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term "harm," as included in the definition of "take," is further clarified by regulation (50 CFR § 17.3) to include: Significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, such as breeding, feeding, or sheltering.

[6] Under the California Fish and Game Code, the term "take" is defined in Section 86 as follows: "Take" means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

safeguard that no owls have colonized the Project Site in the days - or weeks, preceding the ground-disturbing activities.

- If burrowing owls have colonized the Project Site prior to the initiation of ground-disturbing activities, the Town of Apple Valley to determine if "take" would occur with consideration of avoidance measures. If a "take" would occur, then the Project Applicant shall coordinate with the CDFW prior to conducting any ground-disturbing activities to coordinate further on the possibility of preparing a Burrowing Owl Protection, Management, and Relocation Plan prior to initiating ground disturbance. If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to safeguard that Burrowing Owl has not colonized the Project since it was last disturbed. If Burrowing Owls are found, the same coordination described above will be necessary.
- If Burrowing Owl is not detected during surveys, the Project may proceed as described without further restrictions regarding this species.

- Due to the of presence of potentially suitable habitat for Desert Tortoise, a 30-day pre-construction clearance sweep for tortoise is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.).
  - If Desert Tortoises have colonized the Project Site prior to the initiation of ground-disturbing activities, the Project shall immediately inform the Town of Apple Valley to determine if "take" would occur with consideration of avoidance measures. If a "take" would occur, then the Project Applicant shall coordinate with the CDFW and the USFWS prior to conducting any ground-disturbing activities, to coordinate further regarding the need for a Project specific Desert Tortoise Protection, Management or Relocation Plan.
  - If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-action clearance sweep will again be warranted to safeguard that Desert Tortoise have not colonized the Project Site since it was last disturbed. If tortoises are found, the same coordination described above would be necessary.
  - If Desert Tortoise is not detected during surveys, the Project may proceed as described without further restrictions regarding this species.

- Limits of grading and construction activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.

- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

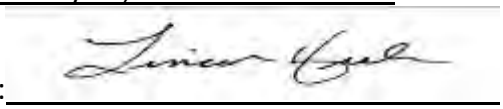
- Prior to undertaking ground-disturbing activities within - or immediately adjacent to WOTS, consult with the appropriate responsible resource agency (i.e., CDFW, the Regional Water Quality Control Board, etc.) to verify the results detailed within Appendix I and J and complete any necessary discretionary permits/authorizations if avoidance of special aquatic resource areas is not possible.

With the implementation of the measures recommended herein, there would be no presumption that the Project would result in the loss of individual species, nor that it would adversely affect local or regional populations of them.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached figures present the data and information required for this resource assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this investigation was performed by me and under my direct supervision. The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report.

DATE: January 17, 2025

SIGNED: 

Lincoln Hulse

The following NOREAS employees performed the field work and/or participated in preparation of this report: Lenny Malo MS, Lincoln Hulse BS, Vir McCoy BS, Ben Zamora BS, Jill Coumoutso BS, Coral Fenech BS, Philippe Vergne MS, Frank Wegscheider MS, and Dale Powell PhD.

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APPENDIX A
SPECIAL-STATUS SPECIES POTENTIAL FOR OCCURRENCE WITHIN THE PROJECT SITE

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	CNPS list	Number of records within 10 miles	Year(s) sighted
A	Prairie falcon (*Falco mexicanus*)	None	None	-	7	1978 - 2017
P	Burrowing owl (*Athene cunicularia*)	None	None	-	39	1997 - 2017
A	Golden eagle (*Aquila chrysaetos*)	None	None	-	15	1925 - 2011
HP	Le Conte's thrasher (*Toxostoma lecontei*)	None	None	-	10	1916 - 2017
A	Crotch bumble bee *(Bombus crotchii)*	None	None	-	2	1944 - 2019
A	Swainson's hawk (*Buteo swainsoni*)	None	Threatened	-	2	1920 - 1932
A	Desert tortoise *(Gopherus agassizii)*	Threatened	Threatened	-	8	1990 - 2018
HP	Mojave monkeyflower *(Diplacus mohavensis)*	None	None	1B.2	17	1992 - 2005
HP	Desert cymopterus *(Cymopterus deserticola)*	None	None	1B.2	1	1988
A	Loggerhead shrike (*Lanius ludovicianus*)	None	None	-	3	2006 - 2009
A	Pallid San Diego pocket mouse *(Chaetodipus fallax pallidus)*	None	None	-	3	1920 - 1954
HP	Bendire's thrasher (*Toxostoma bendirei*)	None	None	-	4	1986 - 2008
A	Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Threatened	Endangered	-	1	2012
A	Mohave tui chub *(Siphateles bicolor mohavensis)*	Endangered	Endangered	-	4	1939 - 2011
A	Mohave ground squirrel *(Xerospermophilus mohavensis)*	None	Threatened	-	5	1919 - 1980
HP	Beaver Dam breadroot *(Pediomelum castoreum)*	None	None	1B.2	2	2008
A	Southern mountains skullcap *(Scutellaria bolanderi ssp. austromontana)*	None	None	1B.2	1	1915
A	Cooper's hawk (*Accipiter cooperii*)	None	None	-	1	1921
A	Hoary bat *(Lasiurus cinereus)*	None	None	-	1	1984
A	San Emigdio blue butterfly *(Plebulina emigdionis)*	None	None	-	4	1975 - 2016
A	Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	Endangered	-	5	2005 - 2013
A	Summer tanager (*Piranga rubra*)	None	None	-	2	1986 - 1990
A	Mohave river vole *(Microtus californicus mohavensis)*	None	None	-	3	1930 - 2010
A	California red-legged frog *(Rana draytonii)*	Threatened	None	-	1	-
A	Yellow-breasted chat (*Icteria virens*)	None	None	-	1	1990
A	Booth's evening-primrose *(Eremothera boothii ssp. boothii)*	None	None	2B.3	5	1981 - 2014
A	Victorville shoulderband *(Helminthoglypta*	None	None	-	2	1939

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	CNPS list	Number of records within 10 miles	Year(s) sighted
	mohaveana)					
A	Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Endangered	-	1	1990
HP	White pygmy-poppy *(Canbya candida)*	None	None	4.2	1	1903
A	Arroyo toad *(Anaxyrus californicus)*	Endangered	None	-	2	1956 - 1979
A	San Bernardino aster *(Symphyotrichum defoliatum)*	None	None	1B.2	1	1991
A	Western pond turtle *(Emys marmorata)*	None	None	-	1	1989
A	Yellow warbler (*Setophaga petechia*)	None	None	-	1	2016
A	Townsend's big-eared bat *(Corynorhinus townsendii)*	None	None	-	2	1930 - 1955
A	Tricolored blackbird (Agelaius tricolor)	None	Threatened	-	1	2014
HP	Coast horned lizard *(Phrynosoma blainvillii)*	None	None	-	2	-
A	Pallid bat *(Antrozous pallidus)*	None	None	-	1	2016
A	Mojave beardtongue *(Penstemon clevelandii var. mohavensis)*	None	None	1B.2	1	1930
HP	Barstow woolly sunflower *(Eriophyllum mohavense)*	None	None	1B.2	1	1914

CNPS List Definitions
List 1A: Plants presumed extinct in California
List 1B.1: Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
List 1B.2: Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California
List 1B.3: Plants rare, threatened, or endangered in California and elsewhere, not very threatened in California
List 2.1: Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
List 2.2: Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Potential for Occurrence Definitions
Absent [A] – Species distribution is restricted by substantive habitat requirements, which do not occur – or are negligible within the Project Site, and no further survey or study is obligatory to determine likely presence or absence of this species.
Habitat Present [HP] – Species distribution is restricted by substantive habitat requirements, which occur within the Project Site, and further survey or study may be necessary to determine likely presence or absence of species.
Present [P] – Species or species sign were observed within the Project Site, or historically has been documented within Project limits
Critical Habitat [CH] – The Project Site is located within a USFWS-designated critical habitat unit.

APPENDIX B
PHOTOGRAPH LOG

	**Photograph 1.** Facing North.
	**Photograph 2.** Facing South.

	**Photograph 3.** Facing Southwest.
	**Photograph 4.** Facing East,

	**Photograph 5.** Facing Southwest.
	**Photograph 6.** Facing North.

	**Photograph 7.** Facing North.
	**Photograph 8.** Facing West.

APPENDIX C
PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

SCIENTIFIC NAME	COMMON NAME
Ambrosia psilostachyia	Western ragweed
Ambrosia salsola	Cheesebush
Ambrosia acanthocarpa	Burr ragweed
Amsinkia menzesii	Fiddleneck
Amsinkia tessellata	Bristly fiddleneck
*Avena fatua**	Wild 0at
Bebbia juncea	Sweetbush
*Brassica Nigra**	Mustard
*Bromus diandrus**	Ripgut brome
*Bromus tectorum**	Cheatgrass
*Centauria melitensis**	Tocalote
Cylindropuntia echinocarpa	Golden cholla
Cylindropuntia ramosissima	Branched pencil cholla
*Descurania pinnata**	Western tansy mustard
Ericameria nauseosa	Rubber rabbitbrush
Eriogonum wrightii	Wrights buckwheat
*Erodium cicutarium**	Common storksbill
*Gnaphalium sp.**	Cudweed
*Hordeum murinum**	Wall barley
*Lactuca serriola**	Prickly lettuce
Larrea tridentata	Creosote bush
Lasthenia gracilis	Goldfields
Lupinus concinnus	Bajada lupine
Malva leprosa	Cheesweed
*Matricaria discoida**	Pineapple weed
*Melilotus indica**	Yellow sweetclover
*Munroa pulchella**	False buffalograss
Oncosiphon piluliferum	Stinknet
*Phacelia distans**	Scorpionweed
Phacelia tanacetifolia	Lacy phacelia
Psorothamnus emoryi	Dyebush
*Schismus barbatus**	Medditeranean grass
*Sisymbrium altissimum**	Tall Tumbleweed
*Sisymbrium irio**	London rocket
*Sisymbrium officianale**	Hedge mustard
Solanum xantii	Purple nightshade
Taraxia ovata	Suncup
Tedradymia stenolepsis	Mojave cottonthorn
Verbenia officianalis	Common vervain
Yucca brevifolia	Joshua tree
Yucca schidigera	Mojave yucca

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).

* = naturalized, non- native plant species.

APPENDIX D
WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

Scientific name	Common name
Birds	
Amphispiza bilineata	Black throated sparrow
Accipiter cooperii	Cooper's hawk
Anthus rubescens	American pipit
Auriparus flaviceps	Verdin
Athene cunicularia	Burrowing owl
Buteo jamaicensis	Red-Tailed hawk
Cathartes aura	Turkey vulture
Corvus corax	Common Raven
Corvus brachyrhynchos	American crow
Sturnus vulgaris	European Starling
Carpodacus mexicanus	House Finch
Hirundo rustica	Barn swallow
Passerculus sandwichensis	Savanna sparrow
Petrochelidon pyrrhonota	Cliff swallow
Columba livia	Rock Pigeon
Euphagus cyanocephalus	Brewer's Blackbird
Zonotrichia leucophrys	White-crowned sparrow
Falco sparverius	American kestrel
Mimus polyglottos	Northern mockingbird
Sayornis saya	Say's phoebe
Passer domesticus	House Sparrow
Setophaga coronata	Yellow-rumped warbler
Sayornis nigricans	Black phoebe
Setophaga petechia)	Yellow warbler
Spinus psaltria	Lesser goldfinch
Sturnella neglecta	Western meadowlark
Tyrannus vociferans	Cassin's kingbird
Quiscalus quiscula	Common Grackle
Zenaida macroura	Mourning Dove
Mammals	
Lepus californicus	Black-tailed jackrabbit
Canis latrans	Coyote
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	Cottontail
Herpetofauna	
Aspidoscelis tigris	Whiptail
Crotalus scutulatus	Mojave rattlesnake
Pituophis catenifer catenife	Gopher snake
Uta stansburian	Side blotched lizard

APPENDIX E
PLANT CENSUS SURVEY

LAKE CREEK LOGISTICS CENTER PROJECT
January 2025

NATIVE PLANT INSPECTION

Apple Valley North United States Geological Survey
7.5-Minute Topographic Quadrangle Map

Prepared By

16361 Scientific Way
Irvine, CA 92618
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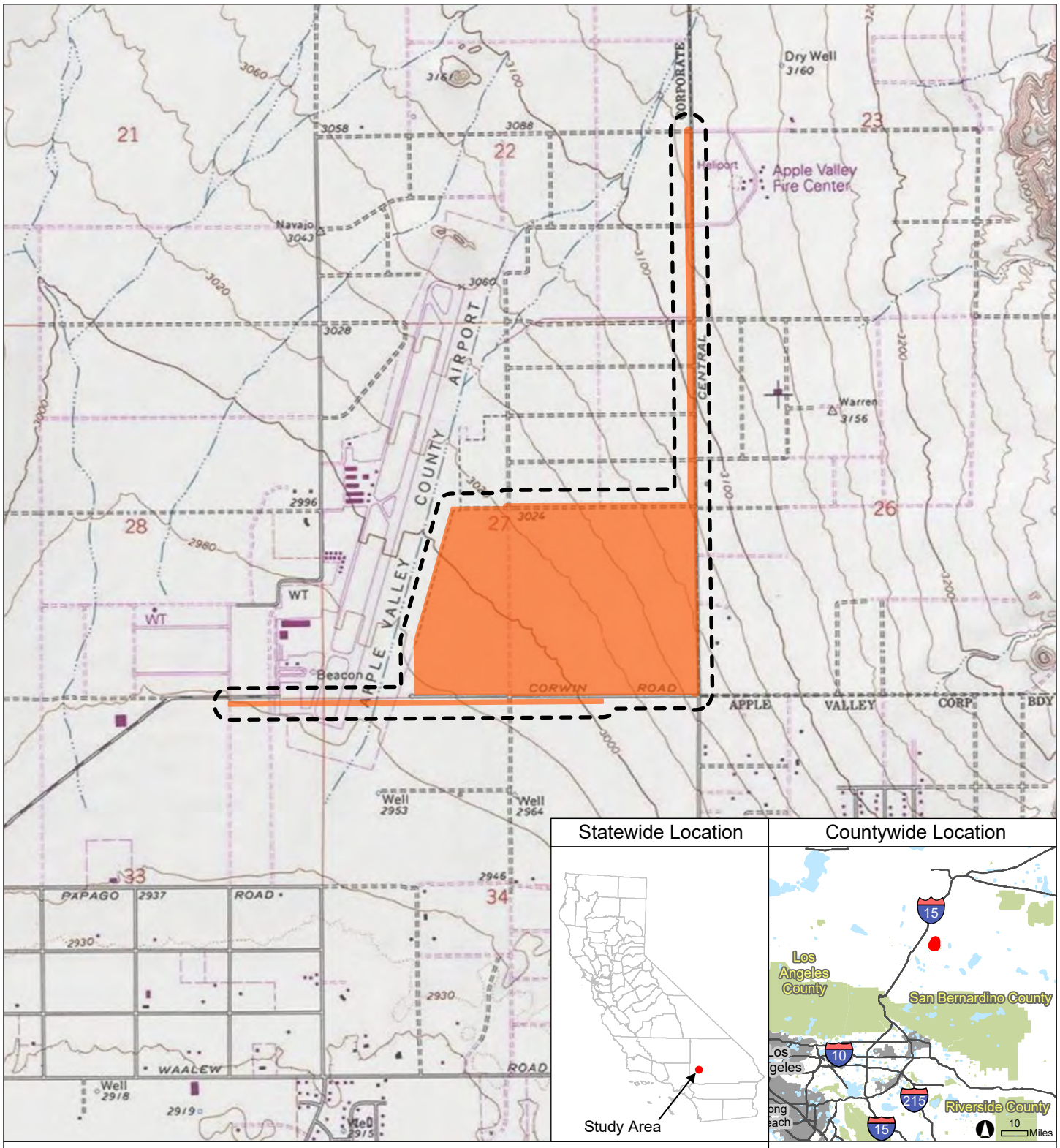
TABLE OF CONTENTS

1.0 EXCUTIVE SUMMARY

Lake Creek Industrial (LCI) is proposing to develop the Lake Creek Logistics Center Project (hereafter referred to as the Project). The Project Site is limited to roughly 256-acres, located in Apple Valley, an incorporated town in the Victor Valley, of San Bernardino County, California (Figures 1 and 2). The Project is located on the Apple Valley North U.S. Geological Survey (USGS), 7.5-minute quadrangle map, San Bernardino Meridian, Township 6 North and Range 3 West, within Sections 22, 23, 26, 27, 28, 33, 34, and 35. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) and a roughly 200-foot buffer (Figures 1 and 2).

This report provides the methods and results of focused native plant surveys which are intended to demonstrate compliance with the County of San Bernardino's Plant Protection and Management Ordinances, California Desert Native Plants Act, and the California Fish and Game Code. In summary, the study area exhibits habitats at various levels of disturbance, with the vast majority of the Project Site having experienced human impacts in the past. Importantly, no critical habitat for plant species, as designated by the Unites States Fish and Wildlife Service, is present within the Project Site. Our comprehensive survey confirmed the absence of rare plants and Western Joshua Trees (*Yucca brevifolia*) within the project boundaries. No special-status plant species or clonal creosote (*Larrea tridentate*) rings were identified during the surveys. However, we did document several common desert species, including Branched Pencil Cholla (*Cylindropuntia ramosissima*), Golden Cholla (*Cylindropuntia echinocarpa)* and Mojave Yucca (*Yucca schidigera*) within the Project Site. Based on these observations, there is no indication that Project activities will harm special-status plants or significantly affect native plant populations - either locally, or regionally. Therefore, the Project is not expected to result in the take[1] of individual special-status plants or pose a threat to the surrounding native plant communities

[1] Under the California Fish and Game Code, the term "take" is defined in Section 86 as follows: "Take" means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.



The Study Area is located in San Bernardino County on the Apple Valley North USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 6N, Range 3W, in Sections 22, 23, 26, 27, 28, 33, 34, 35;

Center coordinates (WGS 1984): 117.298°W 34.354°N

Figure 1. Regional Location

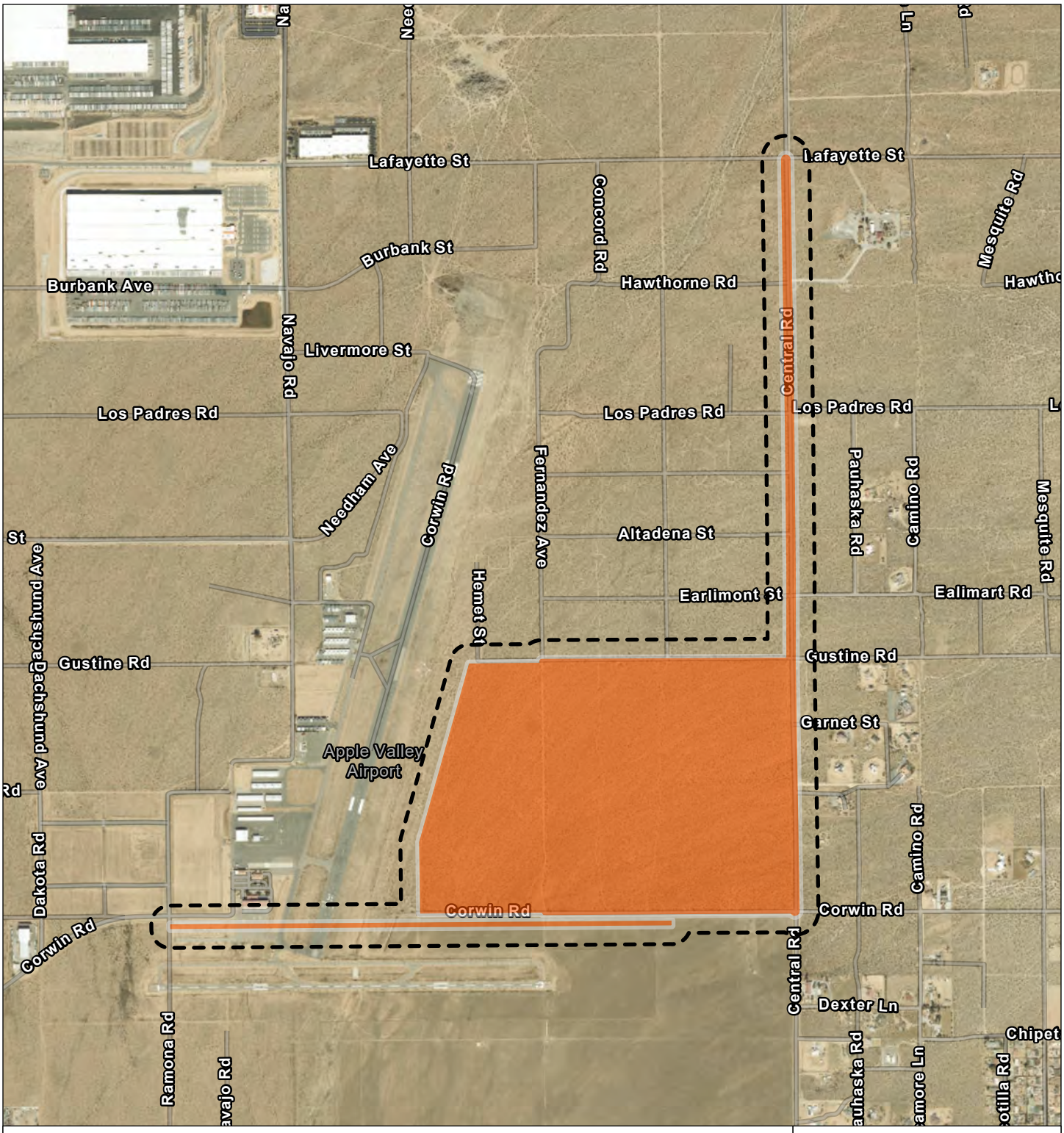


Figure 2. Site Vicinity

2.0 PROPERTY DESCRIPTION

The "Project" is limited to approximately 256-acres – located in Apple Valley, an incorporated town in the Victor Valley of San Bernardino County, California (Figures 1 and 2). The Project is located on the Apple Valley North U.S. Geological Survey (USGS), 7.5-minute quadrangle map, San Bernardino Meridian, Township 6 North and Range 3 West, within Sections 22, 23, 26, 27, 28, 33, 34, and 35.

The Project ranges from approximately 2,980 to 3,200 above mean sea level (msl). Land use in the vicinity of the Project includes open space, commercial, residential and industrial endeavors. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) and a roughly 200-foot buffer (Figures 1 and 2). The study also area includes substantial anthropogenic disturbances (e.g., off-road vehicle routes, an abundance of trash from illegal dumping, spent shell casings, a paved road, and cleared lands). Additionally, the western side of the Project is bound by an active runway at the Apple Valley Airport.

3.0 FOCUSED STUDY/SPECIES OF CONCERN

For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint and a buffer (Project Site, Figure 2). Prior to field surveys, natural resource databases, local resource management plans, aerial photos, and other readily available commercial data associated with the region were reviewed to determine the locations and types of biological resources that have the potential to exist within the region.

Primary data sources included, but were not limited to, the following:

- 2024 California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW 2024a); and
- Aerial Photographs (Microsoft Corporation 2024).

Furthermore, the following local and state provisions were reviewed:

- ✓ San Bernardino County Development Code, Section 88.01.060 Desert Native Plant Protection (San Bernardino County 2024;
- ✓ California Food and Agriculture Code 80001 et seq (California Food and Agriculture Department 2024a);
- ✓ California Desert Native Plants Act, Division 23 of the California Food and Agriculture Code (California Food and Agriculture Department 2023b); and
- ✓ California Fish and Game Code Section 1925 and 1926 (CDFW 2024b).

The aforementioned applicable and relevant code sections, regulations and acts provide details "for the removal or harvesting of specified desert native plants in order to preserve and protect species and to provide for the conservation and wise use of desert resources." As such, the following native plants are identified for consideration within this report:

- The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:
  - *Dalea spinosa* (smoketree);
  - All species of the genus *Prosopis* (mesquites);
- All species of the family *Agavaceae* (century plants, nolinas, yuccas);
- Creosote rings, 10 feet or greater in diameter;
- All Joshua trees (*Yucca* spp.);
- Any part of any of the following species, whether living or dead:
  - *Olneya tesota* (desert ironwood);
  - All species of the genus *Prosopis* (mesquites);
  - All species of the genus *Cercidium* (palos verdes);
- All members of the family *Cactaceae* (cacti), except for sahuaro cactus (*Carnegiea gigantea*); barrel cactus (*Ferocactus acanthodes*);
- All species of the family *Fouquieriaceae* (ocotillo, candlewood);
- Catclaw (*Acacia greggii*);
- Piñon pine (*Pinus monophylla*);
- Manzanita (Arctostaphylos spp.);
- California juniper (*Juniperus californica*);
- Desert willow (*Chilopsis linearis*); and
- Desert-holly (*Atriplex hymenelytra*).

4.0 METHODS

Field surveys were conducted by NOREAS arboricultural and botanical staff, under the auspices of an International Society of Arboriculture Certified Arborist. To that end, Certified Arborist No. 4190 Benjamin Zamora oversaw pedestrian-based field census, and surveys for the Project. Pedestrian-based field work consisted of surveying the entire study area via transects and recording the location of individual native plants by means of a handheld global positioning system (GPS). Plants observed were identified to the lowest taxonomic[2] level sufficient to determine whether the species detected were non-native, native, or special-status[3]. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to The Jepson Manual (Baldwin et al. 2012).

Focused botanical surveys were conducted on 27, 28 March and 22, 23 May, 2023, 04, 18 September and 04, 05 December 2024. Field survey methods were derived from the standardized guidelines issued by the U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Wildlife (CDFW 2009) and the California Native Plant Society (CNPS 2001). As previously stated, the field surveys specifically targeted special status plants and native plant species; but the surveys were floristic[4] in nature. Surveys were conducted during the appropriate blooming and/or observation periods for special status plant species.

An evaluation of reference populations was performed prior to initiating surveys in early March 2023 to safeguard that survey timing was appropriate[5], and to assess local variations in plant phenology[6] (Figure 3). To that end, a targeted and methodical pedestrian-survey for native plant species, in addition to other rare plants was conducted by walking through the Project Site. Survey transects[7] were spaced to allow for complete visual coverage of the Project Site. Transect spacing was reduced or expanded in the field to account for differences in terrain, vegetation density, visual field, health and safety considerations, and access issues.

In addition to special status plants, the surveys targeted native plants with stems ≥2 inches in diameter at breast height, or ≥6 feet in height of the following species:

- ✓ Smoketree;
- ✓ Mesquite;
- ✓ Western Joshua Tree (*Yucca brevifolia*);
- ✓ Desert ironwood;
- ✓ Palo verde;
- ✓ Manzanita;
- ✓ California juniper;
- ✓ Desert willow;
- ✓ Piñon pine;
- ✓ Catclaw;
- ✓ Desert-holly;
- ✓ Creosote rings ≥10 feet in diameter; and
- ✓ Any other plants protected or regulated by the California Desert Native Plants Act and California Food and Agricultural Code 80001 et. seq.

[2] Botanical taxonomy is the practice and science of categorization or classification. A taxonomy (or taxonomical classification) is a scheme of classification, especially a hierarchical classification, in which plants are organized into groups or types.

[3] For the purposes of this analysis, "special-status species" refers to any species that have been afforded special protection by federal, state, or local resource agencies (e.g., U.S. Fish and Wildlife Service [USFWS], California Department of Fish and Wildlife [CDFW]).

[4] Focused on the distribution, number, types, and relationships of plant species in an area, or multiple areas.

[5] Prior to field surveys, a botanist visited a representative number of reference populations in 2023 to safeguard that survey timing was appropriate and to assess local variations in plant phenology.

[6] Phenology is the study of periodic events in biological life cycles and how these are influenced by seasonal and interannual variations in climate, as well as habitat factors.

[7] A transect is a path along which one counts and records occurrences of the objects of study.

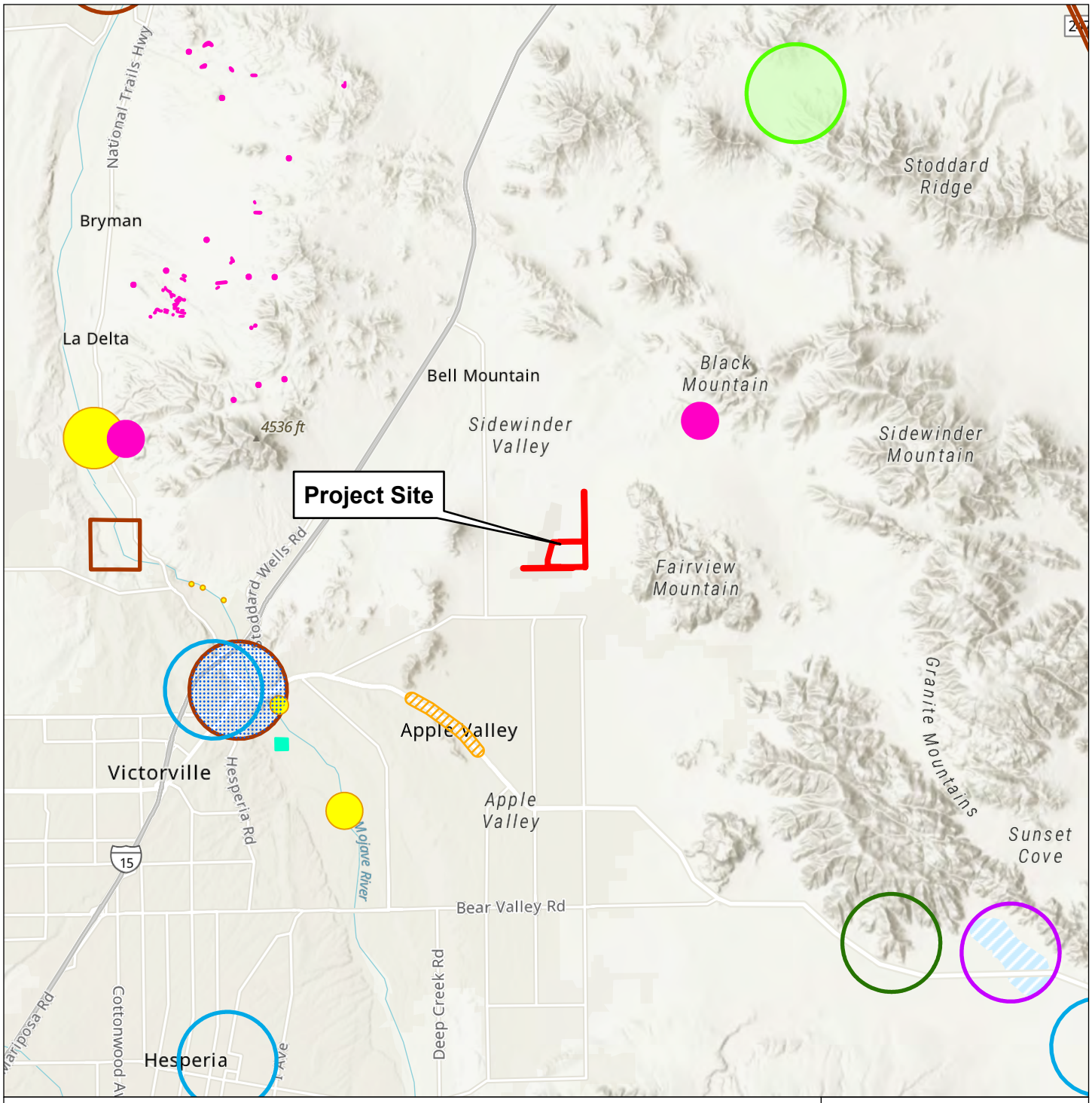


Figure 3. Reference Population Map

5.0 RESULTS

The study area exhibits habitats at various levels of disturbance, with the vast majority of the Project Site having experienced human impacts in the past. Importantly, no critical habitat for plant species, as designated by the Unites States Fish and Wildlife Service, is present within the Project Site (Figure 4). Our comprehensive survey confirmed the absence of rare plants and Western Joshua Trees within the Project Site (Figure 5). However, individual Western Joshua trees were observed within the 200-foot buffer area surrounding the Project Site, outside of the project's disturbance footprint. Since these trees are located beyond the Project's ground disturbance limits, no impacts to Western Joshua trees are anticipated.

To that end, no special-status plant species or clonal creosote rings were identified during the surveys of the Project Site either. However, we did document several common desert species, including Branched Pencil Cholla, Golden Cholla, and Mojave Yucca, within the Project Site (Figure 5). Based on these observations, there is no indication that Project activities will harm special-status plants or significantly affect native plant populations - either locally, or regionally. Therefore, the Project is not expected to result in the "take" of individual special-status plants or pose a threat to the surrounding native plant communities. Even so, the following measures are recommended.

- Adverse effects to regulated desert native plants should be avoided to the maximum extent practical as the Project Site contains desert native plants (Branched Pencil Cholla, Golden Cholla, and Mojave Yucca) that are protected by the Town of Apple Valley Plant Protection and Management Policy (Chapter 9.76), the County of San Bernardino's Desert Native Plant Protection, and the state Desert Native Plants Act (i.e., Food and Agricultural Code 80001 et seq.). In accordance with the California Desert Native Plants Act and Town of Apple Valley Chapter 9.76 (Plant Protection and Management Policy), a native plant removal permit must be obtained from the Town prior to the removal of protected plants.

- No personnel working within Project limits will "take" or destroy plants, animals, or active nests (or eggs) of birds that are protected under the Federal or State Endangered Species Acts, California Fish and Game Code, and Migratory Bird Treaty Act (MBTA).

- Limits of grading and construction activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.

- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

With the implementation of the measures recommended herein, there would be no presumption that Project implementation would either take individual special status plants, nor pose a threat native plant populations in this location - or regionally.

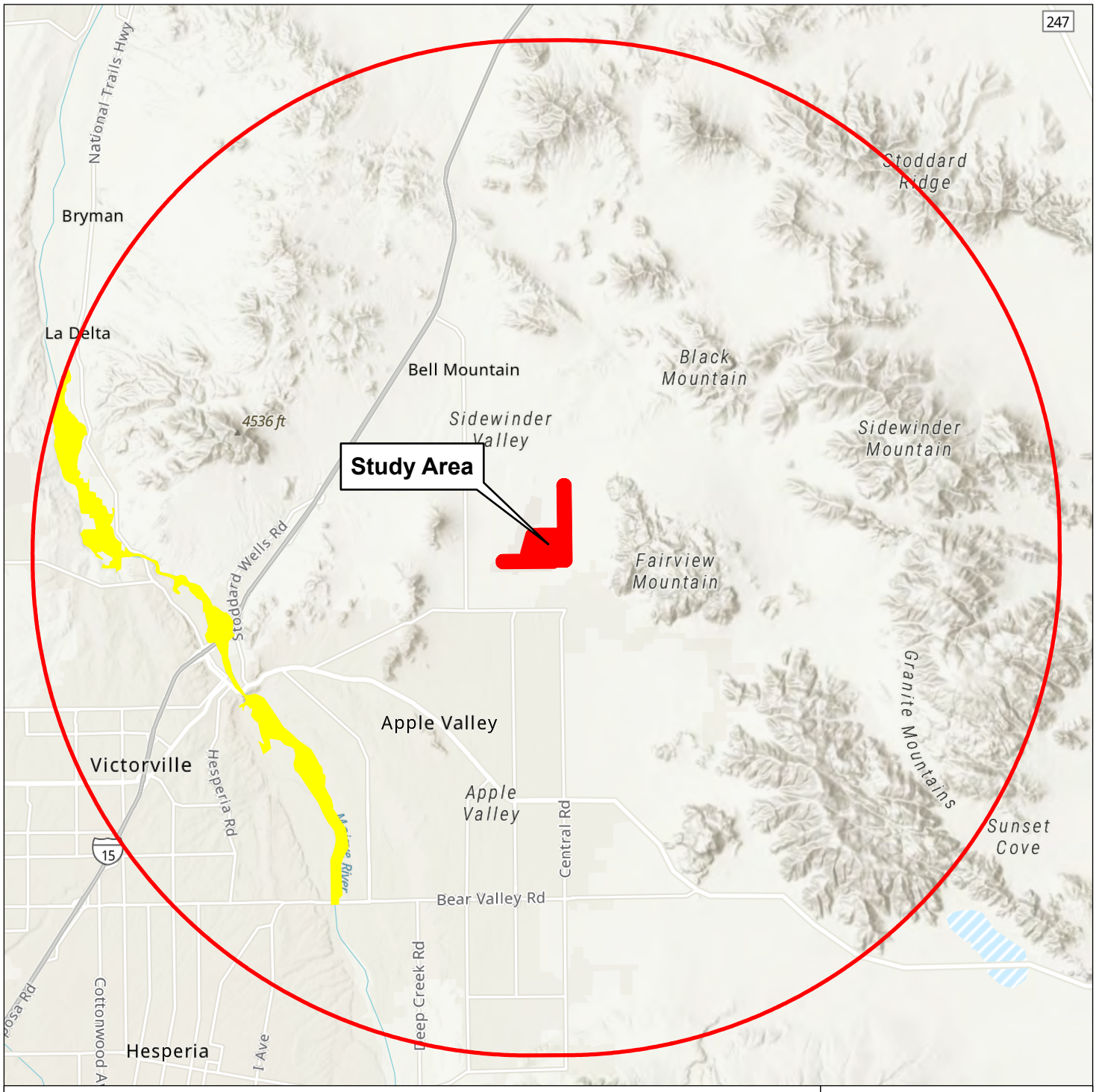


Figure 4. Critical Habitat

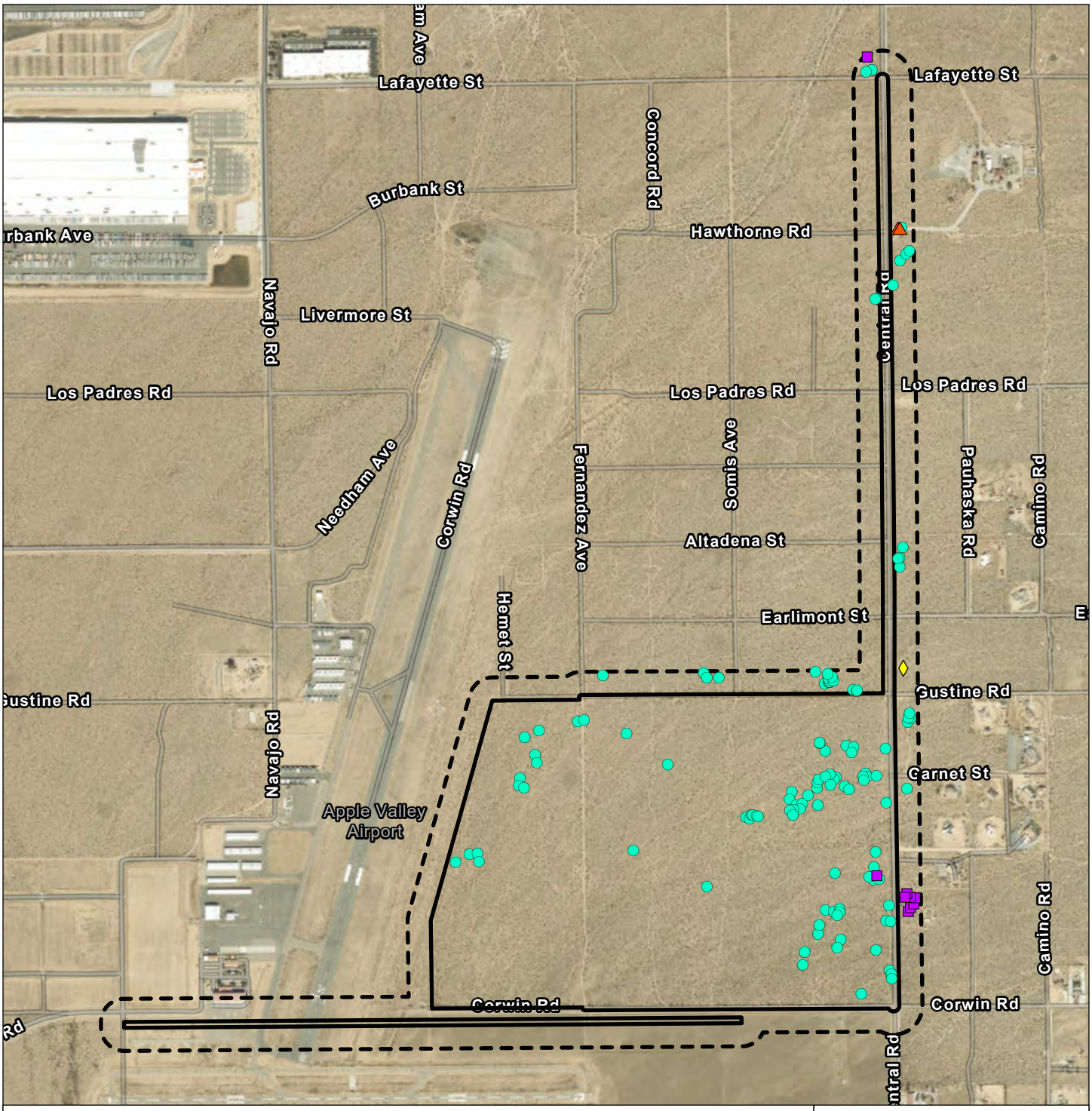


Figure 5. Plant Survey Results

6.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached figures present the data and information required for this resource assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this investigation was performed by me or under my direct supervision. I certify that I have not signed a nondisclosure or consultant confidentiality agreement with the any Project representative, and that I have no financial interest in the Project.

DATE: January 17, 2025 SIGNED: 

Report Author

The following NOREAS employees performed the field work and/or participated in preparation of this report: Lenny Malo MS, Lincoln Hulse BS, Benjamin Zamora BS, Coral Fenech BA, and Vir McCoy BS.

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APPENDIX A
Plant Species List

SCIENTIFIC NAME	COMMON NAME
Ambrosia psilostachyia	Western ragweed
Ambrosia salsola	Cheesebush
Ambrosia acanthocarpa	Burr ragweed
Amsinkia menzesii	Fiddleneck
Amsinkia tessellata	Bristly fiddleneck
*Avena fatua**	Wild 0at
Bebbia juncea	Sweetbush
*Brassica Nigra**	Mustard
*Bromus diandrus**	Ripgut brome
*Bromus tectorum**	Cheatgrass
*Centauria melitensis**	Tocalote
Cylindropuntia echinocarpa	Golden cholla
Cylindropuntia ramosissima	Branched pencil cholla
*Descurania pinnata**	Western tansy mustard
Ericameria nauseosa	Rubber rabbitbrush
Eriogonum wrightii	Wrights buckwheat
*Erodium cicutarium**	Common storksbill
*Gnaphalium sp.**	Cudweed
*Hordeum murinum**	Wall barley
*Lactuca serriola**	Prickly lettuce
Larrea tridentata	Creosote bush
Lasthenia gracilis	Goldfields
Lupinus concinnus	Bajada lupine
Malva leprosa	Cheesweed
*Matricaria discoida**	Pineapple weed
*Melilotus indica**	Yellow sweetclover
*Munroa pulchella**	False buffalograss
Oncosiphon piluliferum	Stinknet
*Phacelia distans**	Scorpionweed
Phacelia tanacetifolia	Lacy phacelia
Psorothamnus emoryi	Dyebush
*Schismus barbatus**	Medditeranean grass
*Sisymbrium altissimum**	Tall Tumbleweed
*Sisymbrium irio**	London rocket
*Sisymbrium officianale**	Hedge mustard
Solanum xantii	Purple nightshade
Taraxia ovata	Suncup
Tedradymia stenolepsis	Mojave cottonthorn
Verbenia officianalis	Common vervain
Yucca brevifolia	Joshua tree
Yucca schidigera	Mojave yucca

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).
* = naturalized, non- native plant species

APPENDIX B
Photographic Log

Photograph 1. Facing West.

Photograph 2. Facing West.

Photograph 3. Facing South.

Photograph 4. Facing Northeast.

Photograph 5. Facing East.

Photograph 6. Facing West.

	**Photograph 7. Branched Pencil Cholla (*Cylindropuntia ramosissima*)**
	**Photograph 8. Golden cholla (*Cylindropuntia echinocarpa*)**

APPENDIX F
BURROWING OWL SURVEY REPORT

LAKE CREEK LOGISTICS CENTER PROJECT

January 2025

BURROWING OWL SURVEY

Apple Valley North United States Geological Survey
7.5-Minute Topographic Quadrangle Map

Prepared By

NOREAS
Environmental Engineering and Science

16361 Scientific Way, Irvine, CA 92618
(949) 467-9100

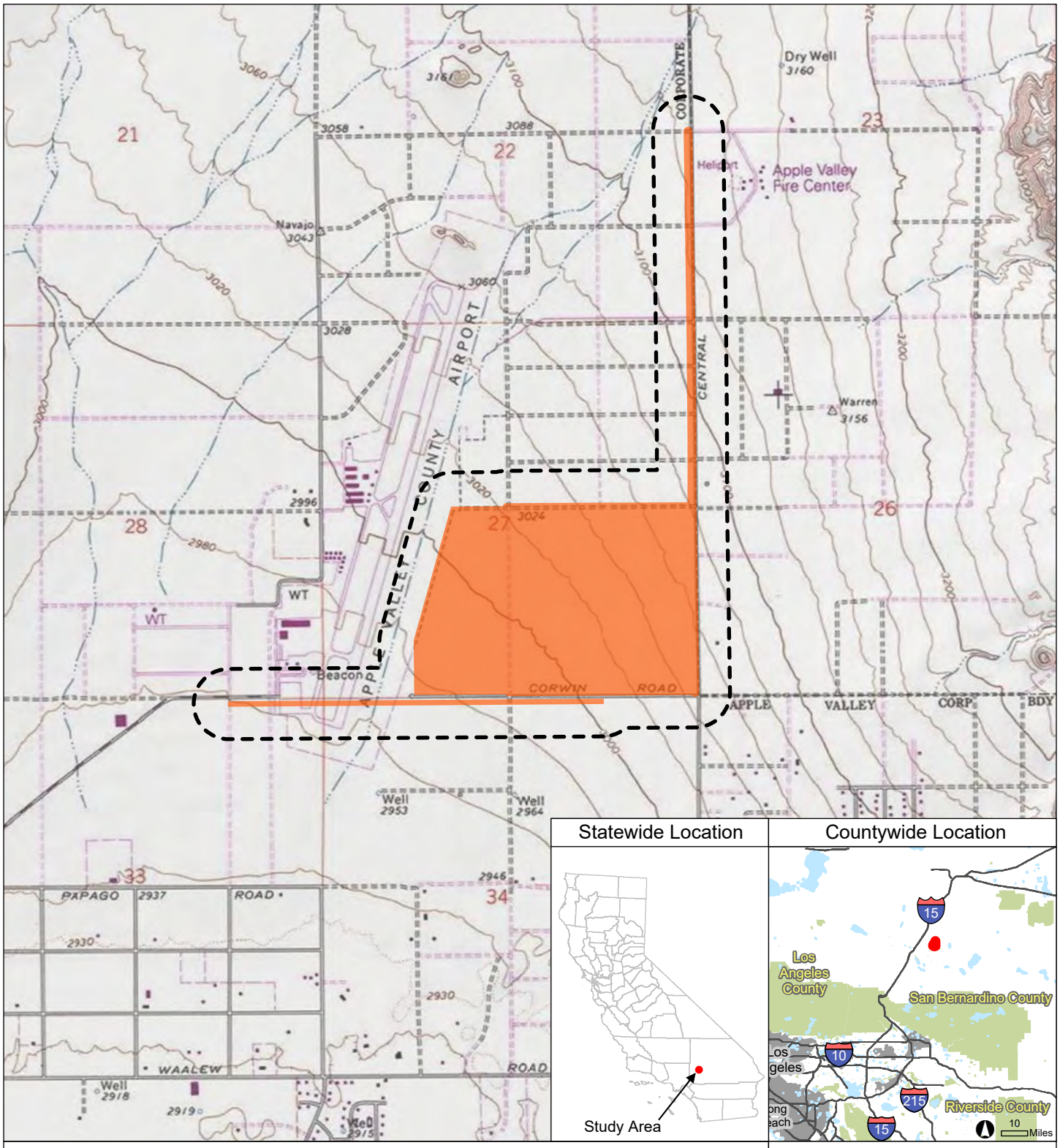
TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY & INTRODUCTION

Lake Creek Industrial (LCI) is proposing to develop the Lake Creek Logistics Center Project (hereafter referred to as the Project). The Project Site is limited to approximately 256-acres, located in Apple Valley, an incorporated town in the Victor Valley, of San Bernardino County, California (Figures 1 and 2). The Project is located on the Apple Valley North U.S. Geological Survey (USGS), 7.5-minute quadrangle map, San Bernardino Meridian, Township 6 North and Range 3 West, within Sections 22, 23, 26, 27, 28, 33, 34, and 35. This report provides the methods, assumptions, and results of focused surveys for Burrowing Owl (*Athene cunicularia*).

The Project ranges from approximately 2,980 to 3,200 above mean sea level (msl). Land use in the vicinity of the Project includes open space, commercial, residential and industrial endeavors. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site), plus a 500-foot buffer where practical (Figures 1 and 2). The study also area includes substantial anthropogenic disturbances (e.g., off-road vehicle routes, an abundance of trash from illegal dumping, spent shell casings, a paved road and cleared lands). Additionally, the western side of the Project is bound by an active runway at the Apple Valley Airport.

One Burrowing Owl was observed in the Project Site and a burrow with indirect sign of owl activity was observed within the study area – but outside of Project limits, adjacent to Central Road during the surveys (Figure 3). The single owl was not consistently observed. Additionally, the owl was not part of a breeding pair, but it did sporadically occupy a burrow throughout the survey period. With that said, the lack of paired or breeding owls within the study area is likely a result of the depauperate landscape, and the presence of owl predators. Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, no breeding or paired birds were detected. Therefore, with the use of avoidance and minimization measures, detailed within Section 5.0 below, there is no presumption that the Project would result in the loss of individual Burrowing Owls, or that it would adversely affect local - or regional populations, of them.



The Study Area is located in San Bernardino County on the Apple Valley North USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 6N, Range 3W, in Sections 22, 23, 26, 27, 28, 33, 34, 35;

Center coordinates (WGS 1984): 117.298°W 34.354°N

Figure 1. Regional Location

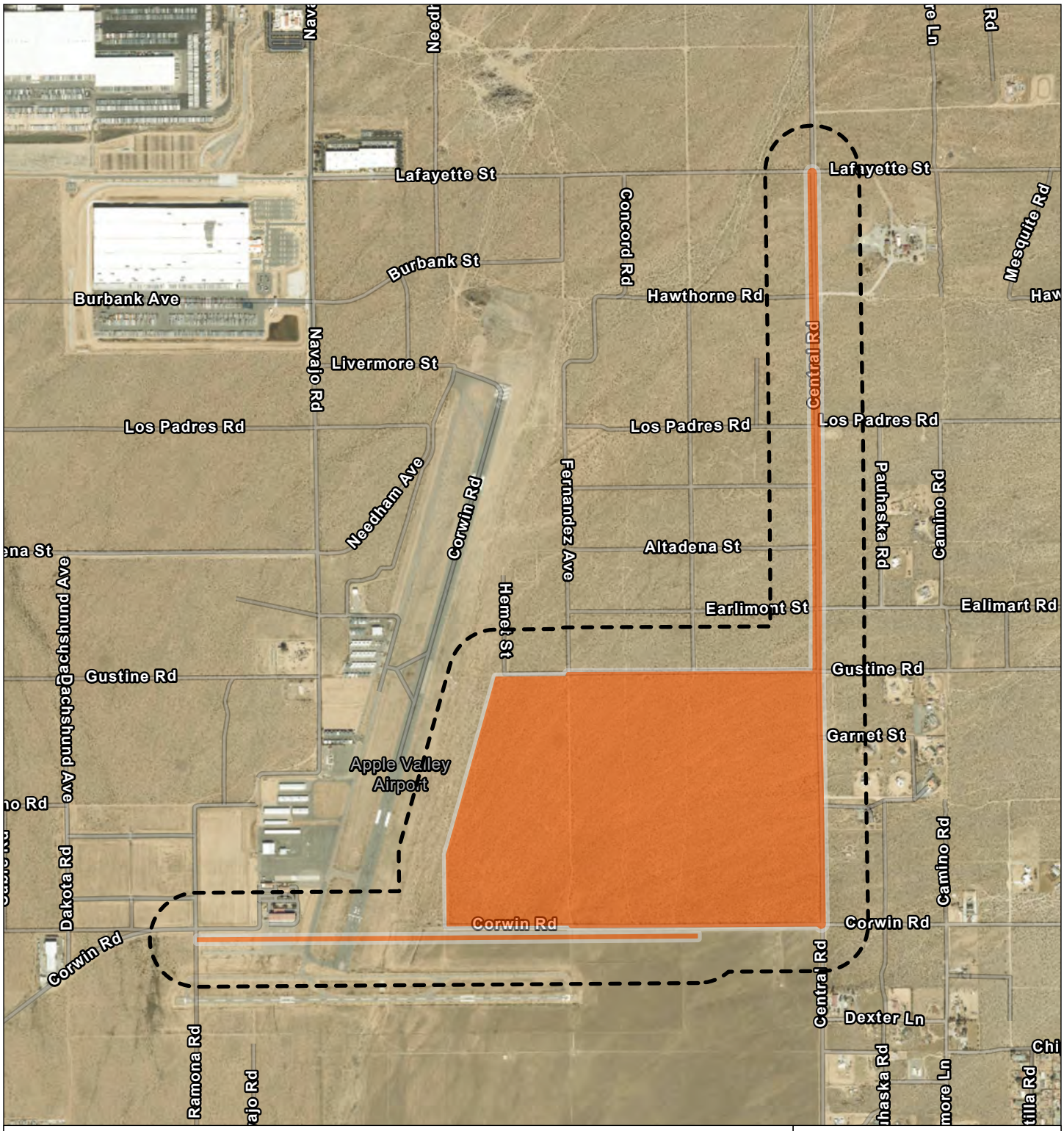


Figure 2. Site Vicinity

2.0 BURROWING OWL BACKGROUND

On October 10, 2024, the California Fish and Game Commission voted unanimously to advance the Western Burrowing Owl to candidacy under the California Endangered Species Act (CESA). As a candidate species, the Western Burrowing Owl receives the full legal protections of CESA including the prohibition of "take" (i.e., hunt, pursue, catch, capture, kill, or attempt to do so) without proper authorization from the California Department of Fish and Wildlife (CDFW). Burrowing Owls inhabit open, dry grasslands, agricultural and rangelands, deserts, and scrublands with low-growing vegetation. They rely heavily on mammal burrows, particularly those of ground squirrels, for nesting. These owls can be found at elevations from 200 feet below sea level to 9,000 feet above (CDFG, 1995). They are often seen perched on fence posts or mounds outside their burrows. Northern populations of Burrowing Owls are typically migratory, while southern populations may only move short distances or remain year-round (Haug et al., 1993; Botelho, 1996). Little is known about the winter ranges of migratory populations, but it is believed that they mix with resident populations in California during the winter months (Coulombe, 1971; Haug et al., 1993).

Burrowing Owls are opportunistic feeders with a diet that includes large arthropods such as beetles and grasshoppers, small mammals like mice, rats, gophers, and ground squirrels, and occasionally reptiles, amphibians, young cottontail rabbits, bats, and birds such as sparrows and Horned Larks. Insects become a larger part of their diet during the breeding season. They hunt by hovering and returning to perches to consume their prey. Burrowing Owls are primarily active at dusk and dawn but will hunt at any time if necessary (CBOC, 1993; CDFG, 1995; Rosenberg et al., 1998).

The breeding season for Burrowing Owls spans from March to late August, with the season lasting longer in the northern part of their range (CBOC, 1993; CDFG, 1995; Klute et al., 2003). Clutch sizes range from 1 to 12 eggs, averaging about 7 (Ehrlich, 1988). The incubation period lasts 28-30 days, with the female responsible for incubation and brooding while the male hunts. Young owls fledge at 44 days but stay near the burrow, joining adults in foraging flights at dusk (Ehrlich, 1988). The maximum lifespan recorded for a wild banded Burrowing Owl is approximately 8.5 years (Rosenberg et al., 1998).

In resident populations, nest site fidelity is common, with many adults nesting in the same burrow each year, and young often establishing nests near their natal sites (Trulio, 1997; Rosenberg et al., 1998). Migratory populations also exhibit nest site fidelity, especially following successful breeding seasons (Belthoff and King, 1997). The primary threats to Burrowing Owls are habitat loss, degradation, and fragmentation, though they do inhabit anthropogenic landscapes like agricultural fields, golf courses, and airport grasslands (Korfanta et al., 2005).

3.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the study area. Resources were evaluated within several miles of the Project. The materials reviewed included, but were not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2024a);
- USFWS Field Office Species List for San Bernadino County (USFWS 2024b);
- California Natural Diversity Database maintained by the CDFW (CDFW 2024);
- 1993 California Burrowing Owl Consortium (CBOC)Burrowing Owl Survey Protocol and Mitigation Guidelines;
- 2021 California Department of Fish and Game (CDFG) Staff Report on Burrowing Owl Mitigation; and
- Aerial Photographs (Microsoft Corporation 2024).

Survey methods were derived from generally accepted professional standards including the 1993 California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (CBOC 1993), the 1995 and 2012 California Department of Fish and Game Staff Reports on Burrowing Owl Mitigation (CDFG 1995 and 2012). Accordingly, a methodical pedestrian-survey for owl burrows and sign were conducted by walking through areas of suitable habitat within the study area (including evaluations of man-made structures, debris piles, etc.). Natural and non-natural substrates were examined for potential burrow sites. All potential burrows encountered were examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Disturbance characteristics and all other animal sign encountered within the study area were documented to the greatest extent practical. Several field surveys were conducted in March, April, May, and June of 2023, and two additional survey events were performed in September and December of 2024.

A hand-held, global positioning system (GPS) unit with sub meter accuracy was used to survey predetermined transects that were prepared within a Geographic Information System prior to the start of owl surveys (Figure 3). Survey transects were spaced at appropriate intervals to allow for complete visual coverage of the Project Site, and study area. Where necessary, transect spacing was reduced or expanded in the field - to account for differences in terrain, vegetation density, visibility and access (i.e., private property) considerations. Where access was limited, observations were made from the nearest appropriate vantage points by means of public rights-of-way with the use of binoculars and spotting scopes. The presence of a species was based on direct observations of individual(s), sign, and/or vocalization. Avian scientific nomenclature and common names follows Sibley (2000).

Field surveys were conducted when weather conditions were conducive to observing birds. Surveys were not performed during rain, extreme temperatures, high winds (> 25 miles per hour), or dense fog. Generally, surveys were performed from approximately 1 hour before sunrise to 2 hours after sunrise, and from approximately 2 hours before sunset to 1 hours after sunset - when weather conditions were conducive to observing owls outside of burrows.

4.0 BURROWING OWL SURVEY RESULTS

One Burrowing Owl was observed in the Project Site and a burrow with indirect sign of owl activity was observed within the study area – but outside of Project limits, adjacent to Central Road during the surveys (Figure 3). The single owl was not consistently observed. Additionally, the owl was not part of a breeding pair, but it did sporadically occupy a burrow throughout the survey period. Two burrows contained owl sign such as pellets, excrement and feathers. Furthermore, numerous – albeit low quality potential burrows, and burrow complexes were also detected. The vast majority of the burrows observed lacked evidence of owl sign (i.e., tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, and nest burrow decoration materials). Although the Project has potential to impact lands that could be utilized by Burrowing Owls as habitat – under the appropriate suite of environmental conditions, no breeding or paired birds were detected.

Therefore, with the use of avoidance and minimization measures, detailed within Section 5.0 below, there is no presumption that the Project would result in the loss of individual Burrowing Owl, or that it would adversely affect local - or regional populations, of them. The lack of paired and breeding Burrowing Owl observations within the study area is likely a result of the depauperate landscape, anthropogenic disturbance regime (adjacent active airfield, paved road, etc.) and the presence of owl predators (e.g., Red-Tailed Hawk [*Buteo jamaicensis*], Cooper's hawk [*Accipiter cooperii*], Turkey vulture [*Cathartes aura*], Common raven [*Corvus corax*], American crow [*Corvus brachyrhynchos*], Coyote [*Canis latrans*], Mojave rattlesnake [*Crotalus scutulatus*], and Gopher snake [*Pituophis catenifer catenife*]). Survey conditions during the field events are presented in Table No. 1.

TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS

Survey Dates	Surveyors	Survey Type	Time[1] Start/ End	Temperature °Fahrenheit Start/End	Wind Speed (MPH)	Start/End Cloud Cover (%)	Date of Last Precipitation Prior to Survey[2]
3/18/23	Jill Coumoutso/ Frank Wegscheider	Burrow Survey and Crepuscular BUOW	0630-1100	51/60	0-08	20%/Clear	03/15/2023
3/19/23	Jill Coumoutso Frank Wegscheider	Crepuscular BUOW	0645-1000	49/49	0-08	100%/100%	03/15/2023
3/25/23	Jill Coumoutso	Crepuscular BUOW	0645-1020	33/39	0-03	0%/0%	03/22/2023
4/08/23	Jill Coumoutso/ Frank Wegscheider	Crepuscular BUOW	0630-1000	45/64	0-04	Clear/Clear	03/22/2023
4/10/23	Jill Coumoutso Frank Wegscheider	Crepuscular BUOW	0640 - 0955	51 / 66	0-01	Clear/Clear	03/22/2023
4/11/23	Jill Coumoutso Frank Wegscheider	Crepuscular BUOW	0640 - 0100	52 / 52	0-01	Clear / Clear	03/22/2023
5/08/23	Jill Coumoutso Frank Wegscheider	Crepuscular BUOW	0630 - 1030	50 / 54	0-07	Clear / Clear	05/04/2023
5/10/23	Jill Coumoutso	Crepuscular BUOW	0635 - 1030	45 / 59	0-03	Clear / Clear	05/09/2023
5/12/23	Jill Coumoutso Frank Wegscheider	Crepuscular BUOW	0635 - 1100	56 / 69	0-01	Clear / Clear	05/09/2023

[1] While targeted owl surveys were limited to approximately 1 hour before sunrise to 2 hours after sunrise and 2 hours before sunset to 1 hour after sunset; the start and end times presented within this table details all time spent within the study area on any given day - which include setup, reporting and demobilization activities.

[2] Data from the California Irrigation Management Information System (CIMIS). (https://cimis.water.ca.gov/UserControls/Reports/DailyReportViewer.aspx)

Survey Dates	Surveyors	Survey Type	Time[1] Start/ End	Temperature °Fahrenheit Start/End	Wind Speed (MPH)	Start/End Cloud Cover (%)	Date of Last Precipitation Prior to Survey[2]
6/17/23	Jill Coumoutso/ Frank Wegscheider	Crepuscular BUOW	0600 - 1000	62 / 87	0-02	Clear / Clear	05/20/2023
6/22/23	Jill Coumoutso Frank Wegscheider	Crepuscular BUOW	0600 - 1000	54 / 67	0-03	30%/25%	05/20/2023
6/24/23	Jill Coumoutso/ Frank Wegscheider	Crepuscular BUOW	0530 - 1030	51 / 85	0-02	10%/30%	05/20/2023
9/4/24	Lincoln Hulse/Ben Zamora	Crepuscular BUOW	0530- 1200	70 / 98	0-05	Clear / Clear	08/14/2024
9/19/24	Lincoln Hulse/Ben Zamora	Crepuscular BUOW	0530- 1200	55 / 79	3-15	Clear / Clear	08/14/2024
12/4/2024	Lincoln Hulse	Crepuscular BUOW	0630- 1300	40 / 62	0-05	Clear / Clear	08/14/2024

BUOW = Burrowing Owl
MPH = Miles Per Hour

Representative photographs of the study area are provided below, and wildlife detected during the surveys are provided within Table No. 2.

Photograph 1. Project Site - Facing East.

	**Photograph 2.** Project Site - Facing West.
	**Photograph 3.** Project Site - Facing North.

	**Photograph 4.** Project Site - Facing Southwest.
	**Photograph 5.** Owl sign observed within the Project Site.

	**Photograph 6.** Owl sign observed within the study area.
	**Photograph 7.** Project Site - Facing South.

	**Photograph 8.** Project Site - Illegal Dumping - near Corwin Road.
	**Photograph 9.** Project Site - Facing South.

	**Photograph 10.** Project Site - Facing East.
	**Photograph 11.** Project Site - Facing South.

TABLE NO. 2 – WILDLIFE DETECTED DURING FIELD SURVEYS

Scientific name	Common name
Birds	
Amphispiza bilineata	Black throated sparrow
Accipiter cooperii	Cooper's hawk
Anthus rubescens	American pipit
Auriparus flaviceps	Verdin
Athene cunicularia	Burrowing owl
Buteo jamaicensis	Red-Tailed hawk
Cathartes aura	Turkey vulture
Corvus corax	Common Raven
Corvus brachyrhynchos	American crow
Sturnus vulgaris	European Starling
Carpodacus mexicanus	House Finch
Hirundo rustica	Barn swallow
Passerculus sandwichensis	Savanna sparrow
Petrochelidon pyrrhonota	Cliff swallow
Columba livia	Rock Pigeon
Euphagus cyanocephalus	Brewer's Blackbird
Zonotrichia leucophrys	White-crowned sparrow
Falco sparverius	American kestrel
Mimus polyglottos	Northern mockingbird
Sayornis saya	Say's phoebe
Passer domesticus	House Sparrow
Setophaga coronata	Yellow-rumped warbler
Sayornis nigricans	Black phoebe
Setophaga petechia)	Yellow warbler
Spinus psaltria	Lesser goldfinch
Sturnella neglecta	Western meadowlark
Tyrannus vociferans	Cassin's kingbird
Quiscalus quiscula	Common Grackle
Zenaida macroura	Mourning Dove
Mammals	
Lepus californicus	Black-tailed jackrabbit
Canis latrans	Coyote
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	Cottontail
Herpetofauna	
Aspidoscelis tigris	Whiptail
Crotalus scutulatus	Mojave rattlesnake
Pituophis catenifer catenife	Gopher snake
Uta stansburian	Side blotched lizard

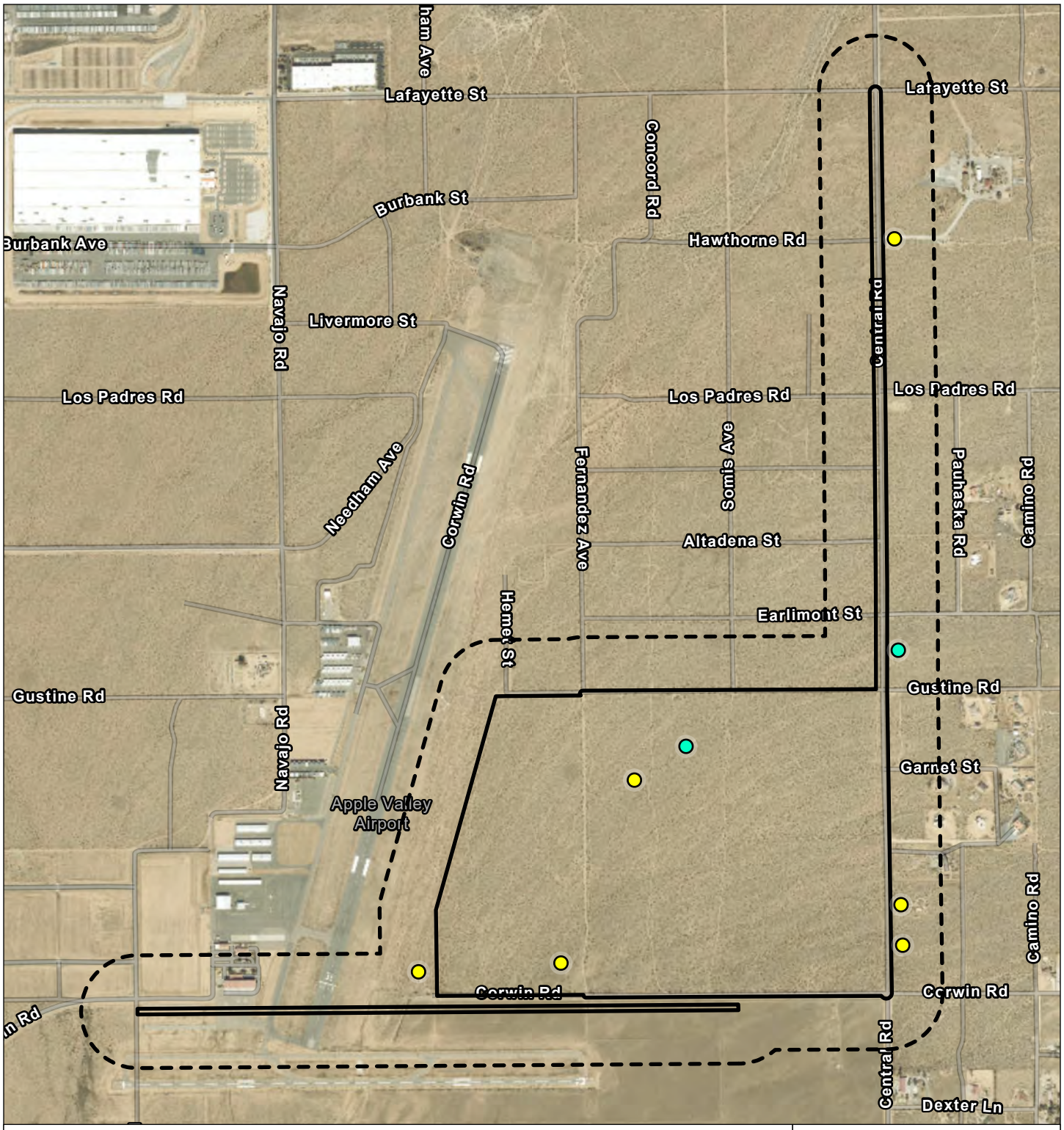


Figure 3. Burrowing Owl Results

5.0 RECOMMENDED MEASURES TO AVOID AND MINIMIZED IMPACTS TO NESTING BIRDS

The following measures are recommended as a means of avoiding, and minimizing adverse impacts to nesting birds that have the potential to occur within the Project Site, and on adjacent lands:

- Due to the presence of potentially suitable habitat, a 30-day pre-construction survey for Burrowing Owls is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.). This safeguards that no owls have colonized the Project Site in the days - or weeks, preceding ground-disturbing activities.

    - If Burrowing Owls have colonized the Project Site prior to the initiation of ground-disturbing activities, the Project shall immediately inform the Town of Apple Valley to determine if "take[3]" would occur with consideration of avoidance measures. If a "take" would occur, then the Project Applicant shall coordinate with the CDFW prior to conducting any ground-disturbing activities, to coordinate further regarding the need for a Project specific Burrowing Owl Protection, Management and Relocation Plan.

    - If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-construction survey will again be warranted to safeguard that Burrowing Owls have not colonized the Project Site since it was last disturbed. If Burrowing Owls are found, the same coordination described above would be necessary

    - If Burrowing Owl is not detected during surveys, the Project may proceed as described without further restrictions regarding this species.

- In order to comply with Section 10 of the Migratory Bird Treaty Act, and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site should take place outside of the typical avian nesting season (e.g., March 15th until September 1st) – to the maximum extent practical. If work needs to take place between March 15th and September 1st, a pre-activity survey for nesting birds would be warranted prior to the onset of Project activities. To the maximum extent practicable, a buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed.

- Limits of grading and construction activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.

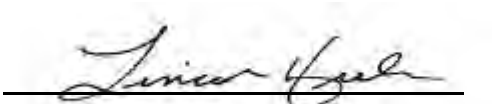
- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

[3] Under the California Fish and Game Code, the term "take" is defined in Section 86 as follows: "Take" means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report, despite due professional care.

I hereby certify that the statements furnished above and in the attached exhibits present the 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.

DATE: January 17, 2025

SIGNED: 

Lincoln Hulse

The following NOREAS employees performed the field work and/or participated in preparation of this report: Lincoln Hulse BS, Lenny Malo MS, Jill Coumoutso BS, Ben Zamora BS, Frank Wegscheider MS, Jonathan Malo, and Coral Fenech BS.

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APPENDIX G
DESERT TORTOISE SURVEY REPORT

LAKE CREEK LOGISTICS CENTER PROJECT

January 2025

DESERT TORTOISE SURVEY

Apple Valley North United States Geological Survey
7.5-Minute Topographic Quadrangle Map

Prepared By

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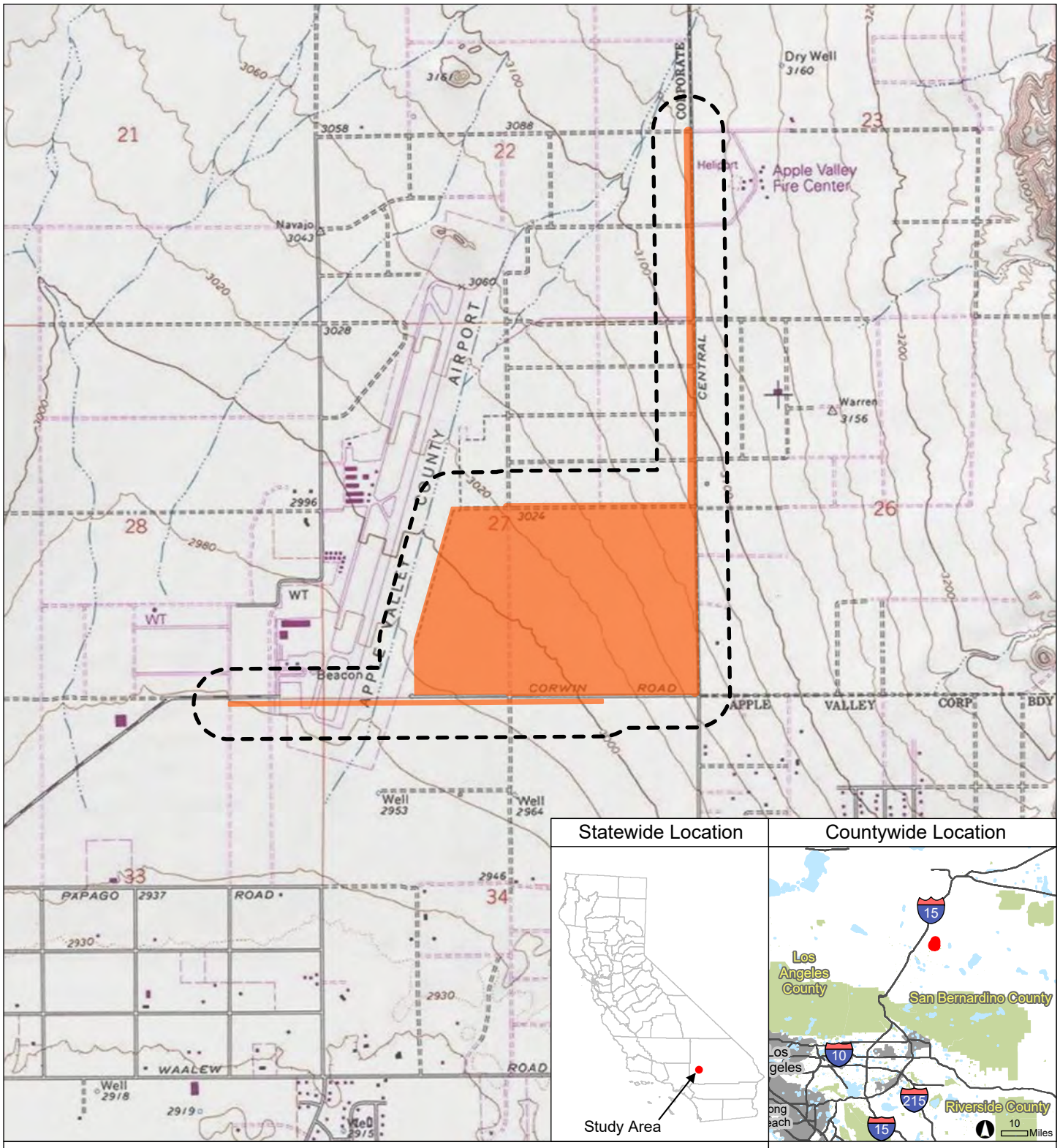
1.0 EXECUTIVE SUMMARY & INTRODUCTION

Lake Creek Industrial (LCI) is proposing to develop the Lake Creek Logistics Center Project (hereafter referred to as the Project). The Project Site is limited to roughly 256-acres, located in Apple Valley, an incorporated town in the Victor Valley, of San Bernardino County, California (Figures 1 and 2). The Project is located on the Apple Valley North U.S. Geological Survey (USGS), 7.5-minute quadrangle map, San Bernardino Meridian, Township 6 North and Range 3 West, within Sections 22, 23, 26, 27, 28, 33, 34, and 35. This report provides the methods, assumptions, and results of focused surveys for the desert tortoise (*Gopherus agassizii*).

The Project ranges from approximately 2,980 to 3,200 above mean sea level (msl). Land use in the vicinity of the Project includes open space, commercial, residential and industrial endeavors. For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site), plus a 500-foot buffer (Figures 1 and 2). The study area also area includes substantial anthropogenic disturbances (e.g., off-road vehicle routes, an abundance of trash from illegal dumping, spent shell casings, a paved road and cleared lands). Additionally, the western side of the Project is bound by an active runway at the Apple Valley Airport.

No tortoise sign was found within the study area during the focused protocol surveys. In summary, our findings are conclusive, the absence of tortoise sign on the subject property, and in adjacent areas, concludes that the desert tortoise is absent from the Project Site. Although the Project has potential to impact lands that could be utilized by the Desert Tortoise as habitat – under the appropriate suite of environmental conditions, no Desert Tortoises were detected. Therefore, with the use of avoidance and minimization measures detailed within Section 5.0 below, there is no presumption that the Project would result in the loss of individual desert tortoises, or that it would adversely affect local - or regional populations, of them.



The Study Area is located in San Bernardino County on the Apple Valley North USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 6N, Range 3W, in Sections 22, 23, 26, 27, 28, 33, 34, 35;

Center coordinates (WGS 1984): 117.298°W 34.354°N

Figure 1. Regional Location

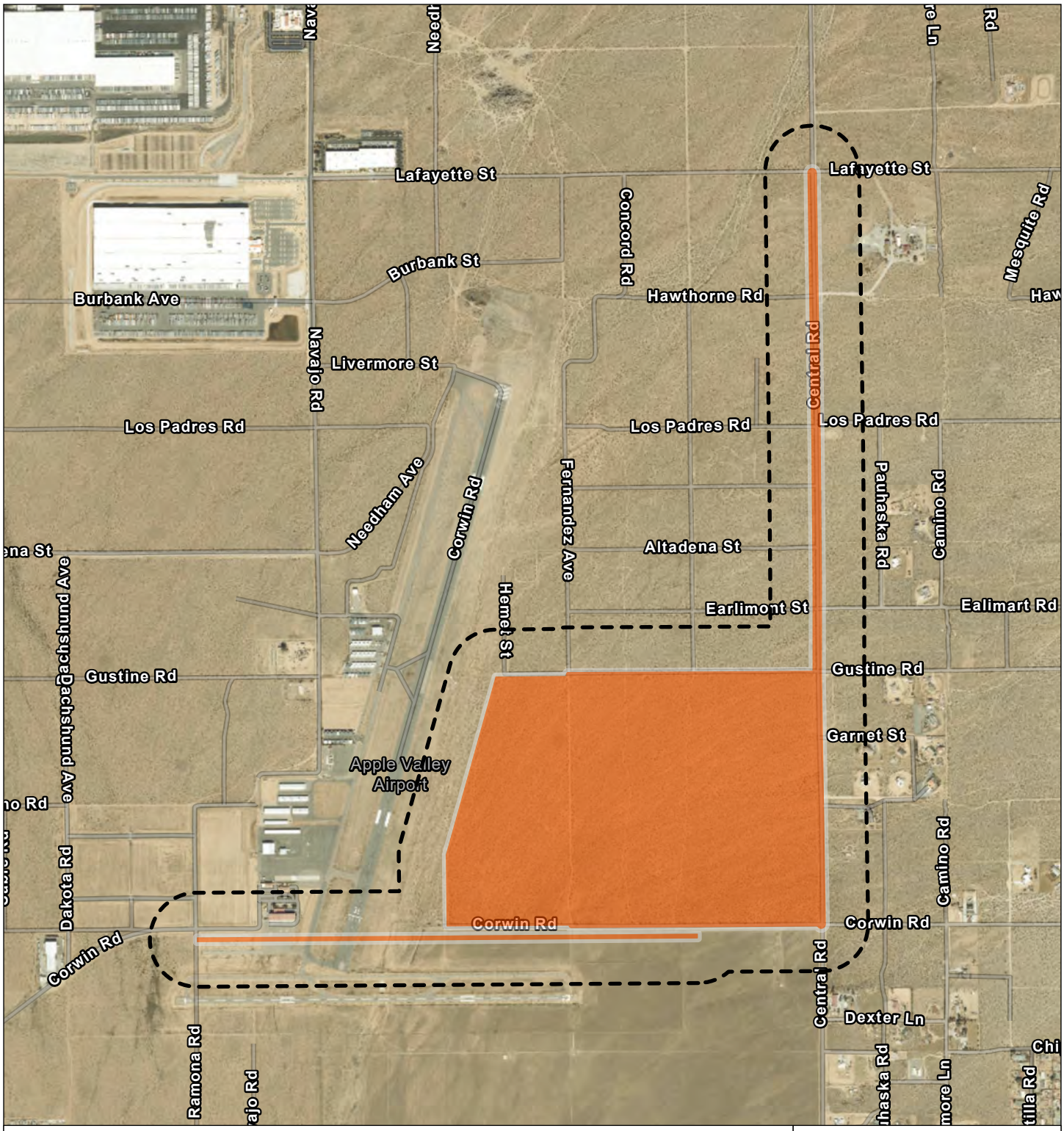


Figure 2. Site Vicinity

2.0 DESERT TORTOISE BACKGROUND

The Project is within the known range and current breeding distribution of desert tortoise. On 02 April 1990, the US Fish and Wildlife Service (USFWS) determined the Mojave population of the desert tortoise to be threatened. The species was also listed as threatened under the California Endangered Species Act in 1989 and is considered a species at risk under California's Wildlife Action Plan (Bunn et al. 2006). On February 8, 1994, the USFWS designated approximately 6.4 million acres of critical habitat for the Mojave population of the desert tortoise in portions of California, Nevada, Arizona, and Utah (59 Federal Register 5820); which became effective on March 10, 1994. California Department of Fish and Wildlife (CDFW) manages over 48,000 acres of land for the conservation of the desert tortoise and additional lands acquired as mitigation for projects that resulted in impacts to the species. The desert tortoise is protected by state regulations in Nevada, Arizona, and Utah, as well.

The desert tortoise is a large, herbivorous reptile that occurs in the Mojave and Sonoran deserts in southern California, southern Nevada, Arizona, and the southwestern tip of Utah in the U.S., as well as Sonora and northern Sinaloa in Mexico. The Mojave Desert tortoise occurs north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California (Luckenbach 1982). Desert tortoises reach 8 to 15 inches in carapace (upper shell) length and 4 to 6 inches in shell height. Hatchlings emerge from eggs at about 2 inches in length. Adults have a domed carapace and relatively flat, unhinged plastrons (lower shell). Their shells are greenish-tan to dark brown in color with tan scute (horny plate on the shell) centers. Adult desert tortoises weigh 8 to 15 lb. The forelimbs have heavy, claw-like scales and are flattened for digging; hind limbs are more elephantine (USFWS 1994).

Optimal habitat for the desert tortoise has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches, where a diversity of perennial plants is relatively high, and production of ephemerals is high (Luckenbach 1982, Turner 1982, Turner and Brown 1982). Soils must be friable enough for digging burrows, but firm enough so that burrows do not collapse. Desert tortoises occur from below sea level to an elevation of 7,300 ft, but the most favorable habitat occurs at elevations of approximately 1,000 to 3,000 ft (Luckenbach 1982). Desert tortoise can potentially survive and reproduce wherever their basic habitat requirements are met. These specifications include a sufficient amount and quality of forage species, shelter sites for protection from predators and environmental extremes, and suitable substrates for burrowing, nesting, and overwintering. Throughout most of the Mojave Region, tortoises occur most commonly on gently sloping terrain with soils ranging from sandy-gravel and with scattered shrubs, and where there is abundant inter-shrub space for growth of herbaceous plants (Gardner and Brodie 2000).

3.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the study area. Resources were evaluated within several miles of the Project. The materials reviewed included, but were not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2024a);
- USFWS Field Office Species List for San Bernadino County (USFWS 2024b);
- California Natural Diversity Database maintained by the CDFW (CDFW 2024);
- U.S. Fish and Wildlife Service (USFWS). Desert Tortoise (Mojave Population) Field Manual (USFWS 2010); and
- Aerial Photographs (Microsoft Corporation 2024).

Subject matter experts evaluated the Project Site on 20 October 2022, 3 January, 18, 19 and 25 March, 8, 10, 11, 13 and 14 April, 8, 10 and 12 May, 22 and 24 June, 26 and 27 July of 2023, and 4 and 19 September, and 04 and 05 December, 2024. Surveys were conducted by the following staff: Frank Wegscheider MS, Jennifer Kendrick BS, Philippe Vergne MS, Lenny Malo MS, Lincoln Hulse BS, Ben Zamora BS and Dale Powell PhD. Weather conditions during the surveys included clear to cloudy skies, temperatures ranging from 52–98 °F, and winds fluctuating from 0 to 15 miles per hour (mph).

Desert Tortoise field assessment techniques were derived from the 2010 protocol for *Preparing for Any Action That May Occur within the Range of the Mojave Desert Tortoise* (USFWS 2010). As such, the field surveys specifically included walking predetermined 30-foot-wide belt transects throughout the Project Site. Where necessary, transect spacing was reduced, or expanded, to account for differences in terrain, vegetation density, and visibility. Surveyors focused on locating Desert Tortoise and other herpetofauna above, and below ground. The Project Site was thoroughly investigated by walking slowly and methodically, while scanning for Desert Tortoise, other herpetofauna, and their characteristic sign. When detected, Desert Tortoise sign (i.e., live individuals, burrows, dens, pallets, scat, tracks, skeletal remains, eggshell fragments, courtship rings, drinking depressions, mineral licks, etc.) was recorded within standardized electronic data forms, a Global Positioning System (GPS) location was obtained, the sign was photographed, and documented – to the greatest extent practical, if present. Weather conditions were also monitored and recorded during each survey event. Census efforts included multiple days of survey. Field surveys were led by qualified tortoise biologists that have completed the desert tortoise training workshop, and have been previously approved by regulatory agencies to inventory, handle and monitor the species.

For the purposes of this survey, *Burrow Condition Class* and *Sign Condition Class* were defined as follows.

Burrow Condition Class

1. Currently active, with Desert Tortoise or recent Desert Tortoise sign;
2. Good condition, definitely Desert Tortoise but no evidence of recent use;
3. Deteriorated condition - includes collapsed burrows[1], definitely Desert Tortoise;

[1] The condition class of a burrow does not necessarily exclude use or occupation by desert tortoise. When aestivating in a burrow, desert tortoise may backfill the burrow giving the appearance of a false terminus or back wall. Spider webs, litter, and other debris may accumulate in burrow openings overnight, and openings may collapse during winter rains. Therefore, it was not assumed that a burrow is inactive or not occupied simply because it looks unused or collapsed.

4. Good condition, possibly Desert Tortoise; and
5. Deteriorated condition, possibly Desert Tortoise.

Scat Condition Class

1. Wet (not from rain or dew) or freshly dried, obvious odor;
2. Dried with glaze, some color and dark brown;
3. Dried, no glaze or odor, bleached (light brown) and tightly packed;
4. Dried, light brown to pale yellow and loose material; and
5. Bleached or consisting of only plant fiber.

Aerial maps illustrating the study area were also utilized in the field to accurately navigate. These efforts were further complemented with the use of a hand-held GPS.

4.0 DESERT TORTOISE SURVEY RESULTS

No desert tortoise sign (i.e., live individuals, burrows, dens, pallets, scat, tracks, skeletal remains, eggshell fragments, courtship rings, drinking depressions, mineral licks, etc.) was observed within the Project Site during the focused protocol survey for the species.

In summary, our findings are conclusive, the absence of tortoise and their characteristic sign, suggests that the desert tortoise are absent from the Project Site. Although the Project has potential to impact lands that could be utilized by the Desert Tortoise as habitat – under the appropriate suite of environmental conditions, no Desert Tortoises were detected. Therefore, with the use of the avoidance and minimization measures detailed within Section 5 below, there is no presumption that the Project would result in the loss of individual tortoises, or that it would adversely affect local - or regional populations, of them.

Representative photographs of the study area are provided below, and wildlife detected during the surveys are provided within Table No. 2.

	**Photograph 1.** Facing West.

	**Photograph 2.** Facing Northeast.
	**Photograph 3.** Facing South.

	**Photograph 4.** Facing Southwest.
	**Photograph 5.** Facing East.

	**Photograph 6.** Facing South.
	**Photograph 7.** Facing West.

TABLE NO. 2 – WILDLIFE DETECTED

Scientific name	Common name
Birds	
Amphispiza bilineata	Black throated sparrow
Accipiter cooperii	Cooper's hawk
Anthus rubescens	American pipit
Auriparus flaviceps	Verdin
Athene cunicularia	Burrowing owl
Buteo jamaicensis	Red-Tailed hawk

Scientific name	Common name
Cathartes aura	Turkey vulture
Corvus corax	Common Raven
Corvus brachyrhynchos	American crow
Sturnus vulgaris	European Starling
Carpodacus mexicanus	House Finch
Hirundo rustica	Barn swallow
Passerculus sandwichensis	Savanna sparrow
Petrochelidon pyrrhonota	Cliff swallow
Columba livia	Rock Pigeon
Euphagus cyanocephalus	Brewer's Blackbird
Zonotrichia leucophrys	White-crowned sparrow
Falco sparverius	American kestrel
Mimus polyglottos	Northern mockingbird
Sayornis saya	Say's phoebe
Passer domesticus	House Sparrow
Setophaga coronata	Yellow-rumped warbler
Sayornis nigricans	Black phoebe
Setophaga petechia)	Yellow warbler
Spinus psaltria	Lesser goldfinch
Sturnella neglecta	Western meadowlark
Tyrannus vociferans	Cassin's kingbird
Quiscalus quiscula	Common Grackle
Zenaida macroura	Mourning Dove
Mammals	
Lepus californicus	Black-tailed jackrabbit
Canis latrans	Coyote
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	Cottontail
Herpetofauna	
Aspidoscelis tigris	Whiptail
Crotalus scutulatus	Mojave rattlesnake
Pituophis catenifer catenife	Gopher snake
Uta stansburian	Side blotched lizard

5.0 RECOMMENDED MEASURES TO AVOID AND MINIMIZED IMPACTS TO DESERT TORTOISE

The following measures are recommended as a means of avoiding, and minimizing adverse impacts to the desert tortoise that may the potential to occur within the Project Site.

- Due to the presence of potentially suitable habitat for Desert Tortoise, a 30-day pre-construction clearance sweep for tortoise is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.).
    - If Desert Tortoises have colonized the Project Site prior to the initiation of ground-disturbing activities, the Project shall immediately inform the Town of Apple Valley to determine if "take[2]" would occur with consideration of avoidance measures. If a "take" would occur, then the Project Applicant shall coordinate with the CDFW and the USFWS prior to conducting any ground-disturbing activities, to coordinate further regarding the need for a Project specific Incidental Take Permit, or Desert Tortoise Protection and Management Plan.
    - If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-action clearance sweep will again be warranted to safeguard that Desert Tortoise have not colonized the Project Site since it was last disturbed. If tortoises are found, the same coordination described above would be necessary.
    - If Desert Tortoise is not detected during surveys, the Project may proceed as described without further restrictions regarding this species.

- Limits of grading and construction activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.

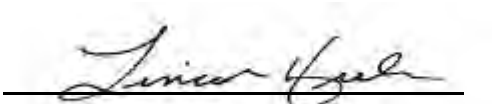
- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

[2] The federal definition of "take" under the Endangered Species Act (ESA) is provided in Section 3(19) of the Act, codified at 16 U.S.C. § 1532(19). It states: "The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term "harm," as included in the definition of "take," is further clarified by regulation (50 CFR § 17.3) to include: Significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, such as breeding, feeding, or sheltering..

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report, despite due professional care.

I hereby certify that the statements furnished above and in the attached exhibits present the 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.

DATE: January 17, 2025

SIGNED: 

Lincoln Hulse

The following NOREAS employees performed the field work and/or participated in preparation of this report: Frank Wegscheider MS, Jennifer Kendrick BS, Philippe Vergne MS, Lenny Malo MS, Lincoln Hulse BS, Dale Powell PhD, Ben Zamora BS, and Coral Fenech BS.

6.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2024. RareFind California Department of Fish and Game Natural Diversity Database (CNDDB) Apple Valley North USGS 7.5-Minute Quadrangle. Sacramento, CA: California Department of Fish and Game, Biogeographic Data Branch.

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Trulio, L. 1997. Burrowing owl demography and habitat use at two urban sites in Santa Clara County, California. Journal of Raptor Research 9:84–89.

U.S. Fish and Wildlife Service (USFWS). 2010. Desert Tortoise (Mojave Population) Field Manual.

United States Fish and Wildlife Service (USFWS). 2024. Critical Habitat Portal. USFWS

United States Geological Service (USGS). 1984. 7.5-Minute Quadrangle Apple Valley North, California.

APPENDIX H
MOHAVE GROUND SQUIRREL ASSESSMENT

LAKE CREEK LOGISTICS CENTER PROJECT

January 2025

Mohave Ground Squirrel Assessment

Apple Valley North United States Geological Survey
7.5-Minute Topographic Quadrangle Map

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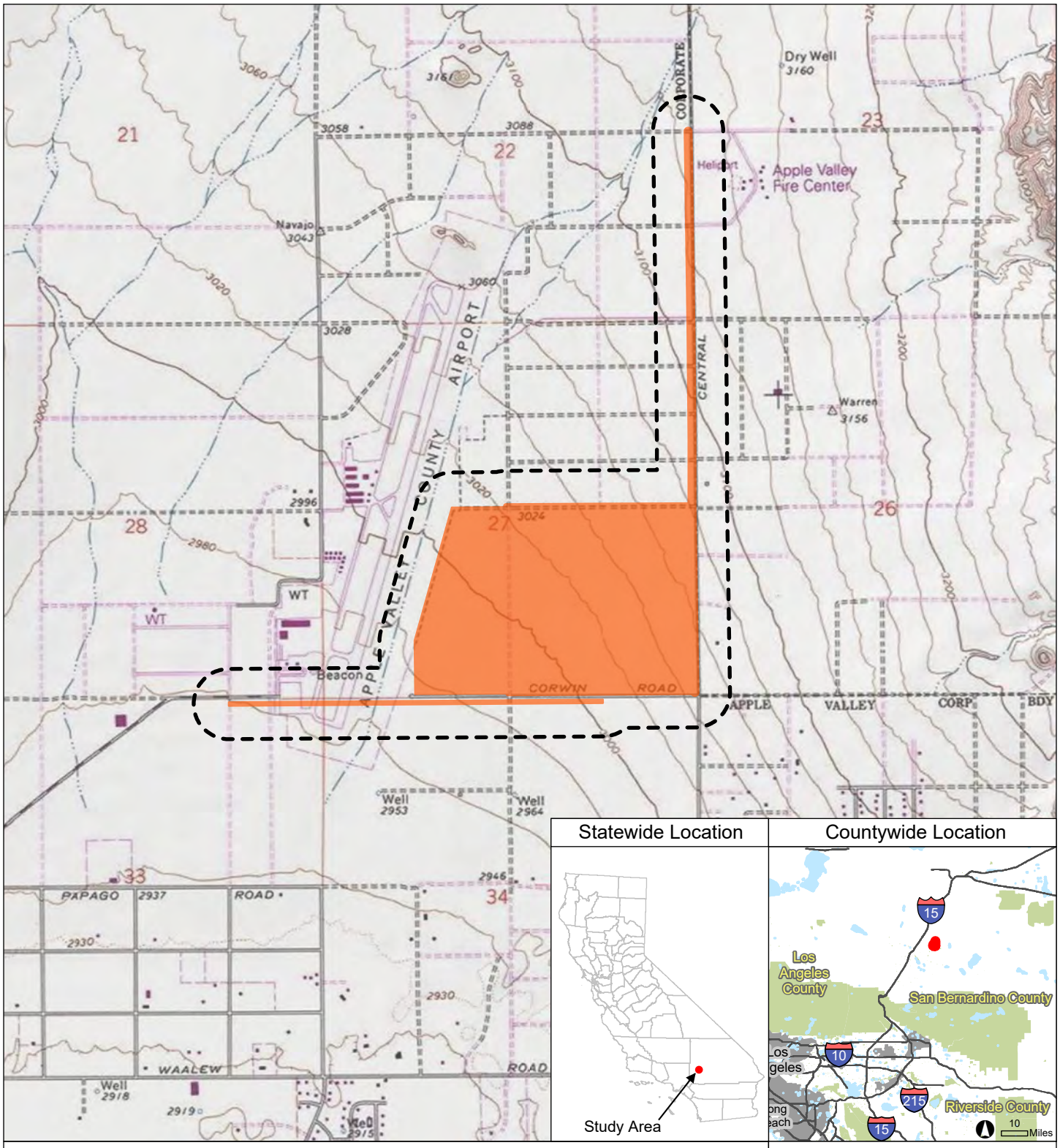
FIGURES

1.0 EXECUTIVE SUMMARY & INTRODUCTION

Lake Creek Industrial (LCI) is proposing to develop the Lake Creek Logistics Project (hereafter referred to as the Project). The Project Site is limited to roughly 256-acres, located in Apple Valley, an incorporated town in the Victor Valley, of San Bernardino County, California (Figures 1 and 2). For the purposes of this report, the "study area" includes the Project Site, plus a 500-foot buffer. The Project is located on the Apple Valley North U.S. Geological Survey (USGS), 7.5-minute quadrangle map, San Bernardino Meridian, Township 6 North and Range 3 West, within Sections 22, 23, 26, 27, 29, 33, 34, and 35.

The Project ranges from approximately 2,980 to 3,200 above mean sea level (msl). Land use in the vicinity of the Project includes open space, commercial, residential and industrial endeavors. The Project Site also includes substantial anthropogenic disturbances (e.g., off-road vehicle routes, an abundance of trash from illegal dumping, spent shell casings, a paved road and cleared lands). The Project Site contains disturbed mesquite scrub and sparse annual grassland habitats, which include a dominance of Creosote bush (*Larrea tridentata*), and invasive grass species such as Schimus (*Schimus barbatus*).

In October of 2022, and again in January of 2023, NOREAS conducted initial surveys and assessments for the Mohave Ground Squirrel (MGS - *Xerospermophilus mohavensis)* within the Project Site, and on adjacent lands. Please note that these surveys did not include Central Road or Corwin Road, as those are paved roads. In summary, our findings are conclusive: MGS are not expected to be present within the Project Site. As the Project Site lacks the essential habitat attributes (i.e., the physical and biological features) needed to support the species. The current vegetation composition, lack of a viable water source, and absence of a functional wildlife corridors between the Project Site and the closest core MGS population, renders the Project Site unsuitable for the habitation of MGS. In light of these findings, there is no presumption that Project implementation would either harm individual MGS, nor pose a threat to their local or regional populations.



The Study Area is located in San Bernardino County on the Apple Valley North USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 6N, Range 3W, in Sections 22, 23, 26, 27, 28, 33, 34, 35;

Center coordinates (WGS 1984): 117.298°W 34.354°N

Figure 1. Regional Location

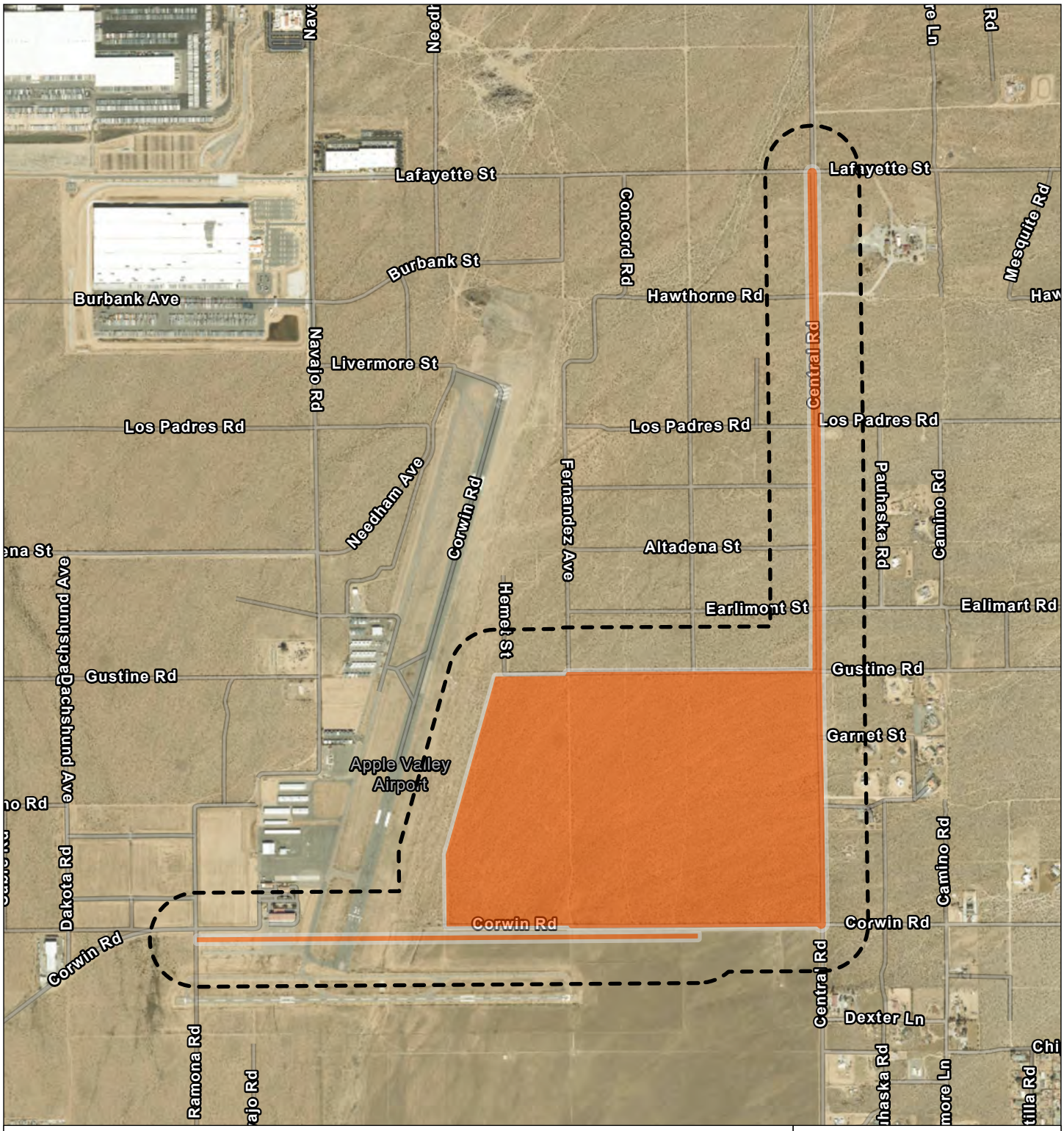


Figure 2. Site Vicinity

2.0 MOHAVE GROUND SQUIRREL BACKGROUND

The MGS was listed as a rare species in 1971 under the authority of the California State Endangered Species Act of 1970 (CESA), and was re-designated as a state threatened species in 1985 (Gustafson 1993). The MGS is a small, grayish, diurnal squirrel. The California Department of Fish and Wildlife (CDFW) is the responsible agency that provides for its protection and management. MGS are dormant in the fall and winter months, but emerge from hibernation in February and begin pair bonding and mating during March (Gustafson 1993). If rainfall is adequate, MGS will reproduce. If rainfall levels are not sufficient to support substantial annual plant growth, then MGS will merely forage on herbaceous perennials and shrubs until they gain ample body mass for another prolonged period of dormancy (Gustafson 1993). The adult males can enter dormancy as early as late May. Juveniles will remain above-ground until August in order to acquire generous fat reserves prior to entering dormancy.

MGS occur in the western half of the Mojave Desert. Its historical range encompasses an area between Antelope Valley and Lucerne Valley, in the south (Gustafson 1993). However, MGS occurrences in the southern portions of its range are very unusual. The northern limits of the range are near Owens Dry Lake bed, in the north, and through China Lake Naval Weapons Station and Fort Irwin Military Base in the east (Gustafson 1993). The eastern limit of the species range extends to Barstow and south along the Mojave River. The western limits loosely follow State Highway 14 and the foothills of the southern Sierra Nevada escarpment (Gustafson 1993). Several other common squirrels occur within their range; antelope ground squirrel (AGS - *Ammospermophilus leucurus*), round-tailed ground squirrel (RTGS - *Xerospermophilus tereticaudus*) and the California ground squirrel (CGS - *Spermophilus beecheyi*).

The Project Site is located at the southeastern edge of the historic geographic range of the MGS. The closest recent capture of MGS to the Project Site, is some 14 miles to the northwest.

3.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of resources that have the potential to exist within and adjacent to the study area. Resources were evaluated within several miles of the Project.

The materials reviewed included, but were not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2024a);
- USFWS Field Office Species List for San Bernadino County (USFWS 2024b);
- California Natural Diversity Database maintained by the CDFW (CDFW 2024);
- Focused Survey for Mohave Ground Squirrel Amethyst Basin (Vergne 2017)
- Trapping Survey for Mohave Ground Squirrel US Cold Storage (Vergne 2022);
- Mohave Ground Squirrel Live trapping Survey for Amethyst Basin (Brylski 2012);
- Mohave Ground Squirrel Survey Guidelines (CDFG 2010);
- A Status Review of the Mojave Ground Squirrel (*Spermophilus mohavensis*) for the Department of Fish and Game, Wildlife Management Division (Gustafson 1993)
- Lietner Current Status of Mohave Ground Squirrel (Wildlife Society 2008); and
- Aerial Photographs (Microsoft Corporation 2024).

Plants were identified to the lowest taxonomic[1] level sufficient to determine whether the species detected were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to The Jepson Manual (Baldwin et al. 2012). The presence of a wildlife species was based on direct observation and/or detection of wildlife sign (e.g., tracks, burrows, nests, scat, skeletal remains or vocalization). Field data compiled for wildlife species included scientific name, and common name. Wildlife of uncertain identity were documented and subsequently identified from specialized field guides and related literature (Burt and Grossenheider 1980; Halfpenny 2000; Sibley 2000; Elbroch 2003 and Stebbins 2003).

Field surveys and general biological assessments of the plant and wildlife species within the Project Site were performed by Lincoln Hulse and Philippe Vergne on 20 October 2022 and 03 January 2023. Weather conditions during the October 2022 and January 2023 surveys included partially cloudy skies, temperatures ranging from 48–73 °F, and winds vacillating from 0 to 12 miles per hour. Additionally, Project Site characteristics with deference to topography, the condition of the plant communities, and evidence of anthropogenic disturbance were noted. Philippe Vergne was the primary investigator in 2022 and 2023, as he holds a U.S. Fish and Wildlife Service (USFWS) permit to trap and handle MGS, and to conduct field studies on sensitive small mammals in Southern California (TE-831207-4), a California Department of Fish and Game (CDFG) Memorandum of Understanding for above mentioned species and the Los Angeles pocket mouse, Palms Springs pocket mouse, Palm Springs ground squirrel, white-eared pocket mouse, Jacumba pocket mouse, north-western San Diego pocket mouse, and Dulzura pocket mouse, and a CDFG collection permit. Survey methods were derived from generally accepted professional standards (CDFG 2010).

Accordingly, a methodical pedestrian-survey for MGS and sign were conducted by walking through the Project Site. A hand-held, global positioning system (GPS) unit with sub meter accuracy was used. Survey

[1] Botanical taxonomy is the practice and science of categorization or classification. A taxonomy (or taxonomical classification) is a scheme of classification, especially a hierarchical classification, in which plants are organized into groups or types.

transects were spaced at appropriate intervals to allow for complete visual coverage of the Project Site. Where necessary, transect spacing was reduced or expanded in the field - to account for differences in terrain, vegetation density, visibility and access considerations. Where access was limited, observations were made from the nearest appropriate vantage points by means of public rights-of-way with the use of binoculars and spotting scopes. Please note that these surveys did not include Central Road or Corwin Road, as those are paved roads. The presence of a species was based on direct observations of individual(s), sign, and/or vocalization.

4.0 SURVEY RESULTS

In summary, adequate cover and forage for MGS appeared to be extremely limited, or non-existent within, and adjacent to, the Project Site. That is to say, the essential plants that MGS consume (i.e., winter-fat [*Eurotia lanata*], and spiny hopsage [*Grayia spinosa*]), are not present within the Project Site. These two species are considered vital forage for MGS. There are also no intermittent water sources - streams or washes within the Project Site. Absence of this habitat feature further reduces it attractiveness to MGS.

Additionally, no wildlife corridors are expected to exist between the Project Site and the closest core MGS population at Edwards Air Force Base. Notably, the maximum documented movement of MGS is 3.9 miles (Harris and Leitner 2005), while the nearest recent capture of MGS to the Project Site is roughly 14 miles to the northwest, and the nearest core population is at Edwards Air Force Base – almost 40 miles away.

Based on these factors, MGS are not expected to be present within the Project Site, and there is no presumption that Project implementation would either harm individual MGS, nor pose a threat to their local or regional populations.

Representative photographs of the Project Site are provided below, plant and wildlife detected during the surveys are provided in tabular format below.

	**Photograph 1.** Facing East.
	**Photograph 2.** - Facing West.

	**Photograph 3.** - Facing North.
	**Photograph 4.** - Facing Southwest.

	**Photograph 5.** Dirt roads within the Project Site.
	**Photograph 6.** - Facing South.

	**Photograph 7.** - Facing East.
	**Photograph 8.** - Illegal Dumping - near Corwin Road.

PLANT & WILDLIFE SPECIES OBSERVED

PLANT LIST

SCIENTIFIC NAME	COMMON NAME
Ambrosia psilostachyia	Western Ragweed
Ambrosia salsola	Cheesebush
Ambrosia acanthocarpa	Burr ragweed
Amsinkia menzesii	Fiddleneck
Amsinkia tessellata	Bristly fiddleneck
*Avena fatua**	Wild Oat
Bebbia juncea	Sweetbush
*Brassica Nigra**	Mustard
*Bromus diandrus**	Ripgut brome
*Bromus tectorum**	Cheatgrass
*Centauria melitensis**	Tocalote
Cylindropuntia ramosissima	Branced Pencil Cholla
*Descurania pinnata**	Western tansy mustard
Ericameria nauseosa	Rubber rabbitbrush
Eriogonum wrightii	Wrights buckwheat
*Erodium cicutarium**	Common Storksbill
*Gnaphalium sp.**	Cudweed
*Hordeum murinum**	Wall barley
*Lactuca serriola**	Prickly lettuce
Larrea tridentata	Creosote Bush
Lasthenia gracilis	Goldfields
Lupinus concinnus	Bajada Lupine
Malva leprosa	Cheesweed
*Matricaria discoida**	Pineapple Weed
*Melilotus indica**	Yellow sweetclover
*Munroa pulchella**	False buffalograss
Oncosiphon piluliferum	Stinknet
*Phacelia distans**	Scorpionweed
Phacelia tanacetifolia	Lacy Phacelia
Psorothamnus emoryi	Dyebush
*Schismus barbatus**	Medditeranean Grass
*Sisymbrium altissimum**	Tall Tumbleweed
*Sisymbrium irio**	London Rocket
*Sisymbrium officianale**	Hedge mustard
Solanum xantii	Purple nightshade
Taraxia ovata	Suncup
Tedradymia stenolepsis	Mojave cottonthorn
Verbenia officianalis	Common vervain

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).
* = naturalized, non- native plant species

WILDLIFE LIST

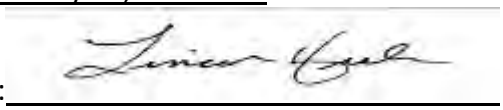
Scientific name	Common name
Birds	
Amphispiza bilineata	Black throated sparrow
Accipiter cooperii	Cooper's hawk
Anthus rubescens	American pipit
Auriparus flaviceps	Verdin
Athene cunicularia	Burrowing owl
Buteo jamaicensis	Red-Tailed hawk
Cathartes aura	Turkey vulture
Corvus corax	Common Raven
Corvus brachyrhynchos	American crow
Sturnus vulgaris	European Starling
Carpodacus mexicanus	House Finch
Hirundo rustica	Barn swallow
Passerculus sandwichensis	Savanna sparrow
Petrochelidon pyrrhonota	Cliff swallow
Columba livia	Rock Pigeon
Euphagus cyanocephalus	Brewer's Blackbird
Zonotrichia leucophrys	White-crowned sparrow
Falco sparverius	American kestrel
Mimus polyglottos	Northern mockingbird
Sayornis saya	Say's phoebe
Passer domesticus	House Sparrow
Setophaga coronata	Yellow-rumped warbler
Sayornis nigricans	Black phoebe
Setophaga petechia)	Yellow warbler
Spinus psaltria	Lesser goldfinch
Sturnella neglecta	Western meadowlark
Tyrannus vociferans	Cassin's kingbird
Quiscalus quiscula	Common Grackle
Zenaida macroura	Mourning Dove
Mammals	
Lepus californicus	Black-tailed jackrabbit
Canis latrans	Coyote
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	Cottontail
Herpetofauna	
Aspidoscelis tigris	Whiptail
Crotalus scutulatus	Mojave rattlesnake
Pituophis catenifer catenife	Gopher snake
Uta stansburian	Side blotched lizard

5.0 RECOMMENDED MEASURES

Based on the data presented herein, MGS are not expected to be present within the Project Site. As a result, no protection or avoidance measures are recommended for MGS. Due to habitat conditions, the location of Project Site, and the absence of vital forage and cover species, it is our professional judgement that the MGS is not present on site, and no further studies are required.

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data, despite due professional care.

DATE: January 17, 2025

SIGNED: 

Lincoln Hulse

The following individuals performed the field work and/or participated in preparation of this report: Lenny Malo MS, Lincoln Hulse BS, Coral Fenech BS, and Philippe Vergne MS.

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APPENDIX I
DELINEATION OF WATERS OF THE UNTED STATES

LAKE CREEK LOGISTICS CENTER PROJECT

Delineation of Waters of the United States

January 2025

U.S. Geological Survey 7.5-Minute Apple Valley North Quadrangle

City of Apple Valley, San Bernardino County, California

Prepared By

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Certification

The undersigned certify - under penalty of law, that they have personally examined and are familiar with the information submitted in this document and all attachments and that, based on an inquiry of those individuals immediately responsible for obtaining the information, believe that the information is true, accurate, and complete. The undersigned are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Prepared By: Lenny Malo Date: 01/17/25

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COMMON ACRONYMS AND ABBREVIATIONS

AMSL	Above mean sea level
APT	Antecedent Precipitation Tool
CFR	Code of Federal Regulations
CWA	Clean Water Act
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GPS	Global Positioning Systems
HUC	Hydrologic Unit Code
NI	No Indicator
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
NOREAS	NOREAS Inc.
OBL	Obligate Wetland
OHWM	Ordinary High-Water Mark
RPW	Relatively Permanent Waters
PS	Project Site
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Waters
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States

1.0 INTRODUCTION AND SUMMARY OF FINDINGS

This report aims to delineate the extent of features within the approximately 256-acres Project Site (PS) that may be subject to regulation by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA), for the Lake Creek Logistics Center Project (hereafter referred to as the Project). The PS is located in the City of Apple Valley, east of the Apple Valley Airport, north of Cordin Road, and along Central Road to the intersection of Lafayette Street (Appendix A, Figures 1 and 2).

This delineation was conducted in the context of the new Waters of the United States ("WOTUS") rule, which was published in the Federal Register on January 18, 2023, and became effective on March 20, 2023. This rule was amended to conform to the U.S. Supreme Court's decision in Sackett v. Environmental Protection Agency (EPA) on May 25, 2023, and the conforming rule was published on August 29, 2023, becoming effective on September 8, 2023. This evaluation has been completed using data acquired from current and historic imagery, hydrologic databases, analytic tools, physical on the ground analyses and measurements, and a review of the regulations, manuals, and guidance documentation created to identify the geographic limits of WOTUS.

Subject matter experts assessed the PS and its localized watershed for the presence of hydrophytes, distinct soils, riparian and riverine resources, lakes, rivers, streambeds, surface waters and wetlands throughout April and October 2022, January and April 2023, September and December of 2024. Historic and current aerial photography of the PS were reviewed - prior to, and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. The EPA WATERS GeoViewer tool also provided access to spatial data sets - such as interactive upstream and downstream search capabilities, to assist in determining the jurisdictional status of resources detected within the region. Additionally, the Federal Emergency Management Agency (FEMA) flood zone was reviewed, and the National Wetland Inventory – which is maintained by the U.S. Fish and Wildlife Service (USFWS). This was all done to support the identification of potential WOTUS within the PS.

Please note that this delineation of potential WOTUS was conducted following guidance in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (USACE 2008). The ordinary high-water mark (OHWM) of potential other WOTUS was delineated – as appropriate, following the guidance in *A Field Guide to the Identification of the Ordinary High-Water Mark in the Arid West Region in the Western United States* (USACE 2008b). This delineation also uses the current USACE Arid West Wetland Determination Data Sheet and OHWM Data Form – as appropriate, which have not yet been updated to reflect the recent U.S. Supreme Court decision in Sackett v. EPA. With that said, the new WOTUS rule introduces additional requirements beyond the traditional OHWM and three-parameter test to define WOTUS, and wetlands. The new rule mandates a relatively permanent, continuous - or uninterrupted, surface water connection to an (a)(1) through (a)(5) Waters. Therefore, although the physical, chemical, and biological criteria for a WOTUS may be superficially satisfied, an individual feature may not meet the legal definition of a WOTUS - under the Clean Water Act (CWA), and related legal jurisdiction.

This current delineation resulted in the identification of no WOTUS within the PS (Appendix A & B, Figure 3). Data presented herein suggests that there are no signatures within the PS that possess a relatively permanent - or continuous and uninterrupted, surface water connection to any (a)(1) through (a)(5) Waters, as described in Title 33 CFR Part 328(a). Explicitly, there is no physical evidence of a relatively permanent surface water connection from the PS to a Traditional Navigable Water [TNW]), to any

Relatively Permanent Waters (RPW) or to the Mojave River. The PS is isolated from any TNW, RPW and the Mojave River, as it lacks a connection to the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events. Still, due to the nature of ephemeral flows in the area, and the arid environment, flows from the PS – which is east of the Apple Valley Airport, lack a continuous or relatively permanent surface water connection to the Mojave River. The signatures detected within the PS are ephemeral features. They drain into intermittent channels or alluvial fans, where water quickly disperses by infiltration or evaporation before the water can make its way to any noteworthy watercourse. Therefore, based on the language provided in the new WOTUS rule, no signatures within the PS satisfy all the criteria and parameters to be considered a WOTUS.

This document presents our best effort at estimating WOTUS boundaries using the most up-to-date regulations, written policies, and guidance from the USACE.

2.0 REGULATORY SETTING

2.1 Regulatory Review

2.1.1 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 (WOTUS). The term "WOTUS" 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 WOTUS 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 "WOTUS" 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 WOTUS; 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 WOTUS.

Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "WOTUS") 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 criterion with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

3.0 METHOD

Prior to performing field surveys, documentation relevant to the PS and surrounding area was reviewed using the methods and databases listed below.

3.1 Literature Reviews

Prior to conducting fieldwork, the following information was reviewed to determine watershed characteristics, locations and types of aquatic resources that may be present within the PS:

- Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2024) (Appendix A, Figure 4);
- Natural Resource Conservation Service, Watershed Boundary Dataset (USDA-NRCS 2024b) (Appendix A, Figure 5);
- Federal Emergency Management Agency (FEMA 2024) (Appendix A, Figure 6);
- National Wetlands Inventory (NWI) maintained by the US Fish and Wildlife Service (USFWS 2024) (Appendix A, Figure 7);
- Prado Dam, California, Topographic Map 7.5-minute USGS Map (USGS 1987);
- 2024 color aerial photographs (Bing Maps 2024);
- Google Earth version 5.2.1.1588 (March 2024);
- Environmental Protection Agency Enviromapper for Water (EPA 2024);
- 2024 U.S. Environmental Protection Agency (EPA) WATERS GeoViewer Tool (epa.maps.arcgis.com/apps/webappviewer) (Appendix A, Figures 8 and 9);
- 2024 EPA Antecedent Precipitation Tool (APT) (epa.gov/wotus/antecedent-precipitation-tool-apt); and
- Western Regional Climate Center data for Apple Valley, California (WRCC 2024).

The PS was examined to assess the presence of an OHWM, hydrophytes, distinct soils, riparian and riverine resources, lakes, rivers, streambeds, surface waters and wetlands, discernable bed and bank signatures, aquatic resources, or evidence of a change in vegetation type, density, or vigor. The intent of this assessment was to determine where water may flow, or may not flow - or terminate, and was used to determine efficient locations for visual inspections to occur in the field.

3.1.1 Aerial Photography

Historic and current aerial photography of the PS were reviewed, prior to and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. Inundation and vegetative signatures on aerial images can imply the presence - or absence, of lakes, rivers, or streambed systems within a discrete location.

3.1.2 U.S. Fish and Wildlife Service National Wetland Inventory Data and Environmental Protection Agency WATERS GeoViewer

The EPA WATERS GeoViewer tool provided access to spatial data sets (Appendix A, Figures 8 and 9) - such as interactive Upstream/Downstream search capabilities, and interactive watersheds, to assist in determining the jurisdictional status of resources detected within the PS (epa.maps.arcgis.com/apps/webappviewer). Additionally, the FEMA flood zone is depicted in Appendix A, Figure 6. Furthermore, the NWI – which is maintained by the USFWS, was reviewed to support the identification of potential jurisdictional resources within the PS. However, this database (i.e., the NWI) specifically rejects its use for regulatory jurisdictional review.

3.1.3 Antecedent Precipitation Tool

The Antecedent Precipitation Tool (APT) was also utilized to determine whether field observations are representative of typical climatic conditions (i.e., those that have been experienced over the past thirty years). This tool is informative when assessing whether certain field conditions are observed during typical, as opposed to atypical rainfall cycles. The APT queries data from weather stations that are located within a 30-mile radius from the Project.

3.1.4 Topography

USGS topographic maps were reviewed as well (Appendix A, Figure 1). These maps tend to illustrate elevation contours, drainage patterns, and hydrography within the PS. USGS 7.5-Minute Topographic Quadrangles "Apple Valley North" was evaluated to facilitate identification of potential drainage features within the PS - as indicated from topographic changes, blue-line features, or visible drainage patterns in order to characterized features.

3.2 Procedures and Field Data Collection Techniques

Potential USACE-defined wetlands, and other WOTUS, and additional riverine resources were evaluated in the field with a handheld Global Positioning System (GPS) receiver. The surface area of each feature was then calculated within a Geographic Information System (GIS) to determine total jurisdiction area within the PS. KMZ (Keyhole Markup Language Zipped) files and GIS/ESRI shapefiles are available for all mapped resources, upon request, as aquatic resource boundaries were not permanently flagged, or demarked within the PS at the time of the delineation.

3.2.1 Waters of the United States Delineation Techniques

The specific delineation of signatures tied to WOTUS was conducted within the PS using a combination of on the ground quantification, remote sensing and ground verification via pedestrian surveys throughout April and October 2022, January and April 2023, September and December of 2024. Assessment of the presence - or absence, of an OHWM was based on observations - or evidence of flow, and unique characteristics indicating the presence of active water flow, shelving, drift lines, and disturbed vegetation. Or other indicators identified in the "Field Guide to Identification of the OHWM in the Arid West Region of the Western United States" (USACE 2008). OHWM characteristics in this region would primarily consist of sediment sorting, destruction of terrestrial vegetation, and a change in substrate in the feature as compared to the surrounding upland area. However, features were excluded from this assessment if they are man-made ditches, exhibited swales or erosional characteristics, etc., in accordance with USACE CWA Regulations Title 33 CFR Part 328.3(b) Not Waters of the United States[1].

Data collected included digital format GPS locations, and photos (Appendix B). Both a routine off-site and on-site field determination was conducted for USACE-defined wetlands, and non-wetland WOTUS. This delineation also uses the current USACE Arid West Wetland Determination Data Sheet and OHWM Data Form – as appropriate, which have not yet been updated to reflect the recent U.S. Supreme Court decision in Sackett v. EPA. With that said, the new WOTUS rule introduces additional requirements beyond the traditional OHWM and three-parameter test to define WOTUS and wetlands. The new rule now mandates a relatively permanent, continuous - or uninterrupted, surface water connection to an (a)(1) through (a)(5) Waters. Therefore, although the physical, chemical, and biological criteria for a WOTUS may be superficially satisfied, an individual feature may not meet the legal definition of a WOTUS under the CWA, and related legal jurisdiction. The term continuous surface water connection to a TNW or RPW is used only for wetlands. Connected to - or tributary to, are terms used for non-wetland aquatic resources and the relative permanence of a hydrological connection to TNW.

[1] USACE CWA Regulations Title 33 CFR Part 328.3(b) Not Waters of the United States – In summary, Ditches, Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow, are not WOTUS.

Features and signatures that did not meet the hydrophytic vegetation wetland criteria are also reviewed to determine if they met the definition of other WOTUS (i.e., had evidence of an OHWM). Data collected from georeferenced aerial photographs, topographic maps, and soils data are viewed on handheld mobile devices, and used to target areas with potential to be WOTUS. During fieldwork, all accessible areas within the PS were visually surveyed for hydrophytic vegetation, standing water, scoured areas, etc. Inaccessible areas were viewed from the elevated locales with the aid of binoculars, aerial photographs, and so forth. Areas that were determined to have an OHWM, defined bed/bank or suspected of being WOTUS, wetlands or other sensitive riparian/riverine communities were further analyzed for a dominance of hydrophytic vegetation, hydric soils, and hydrology as described below. The evaluation process for USACE-defined wetlands considered vegetation, soils, and hydrological parameters of suspected features. The location of the OHWM – if detected, is defined based on clear lines visible on banks; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; and differences in vegetation species, composition or structure.

3.2.2 Vegetation

Plants observed were identified to the taxonomic level sufficient to determine their wetland indicator status based on the National List of Plant Species that occurs in the Arid West Region National List of Plant Species that Occur in Wetlands[2] (EL 1987, Reed 1998, Lichvar 2012, and Table 1). Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded per Baldwin et al. (2012) and Lichvar (2012).

Table 1. Summary of Wetland Indicator Status

Category	Probability
Obligate Wetland (OBL)	Plants that occur almost always (estimated probability > 99%) in wetlands under natural conditions
Facultative Wetland (FACW)	Plants that occur usually (estimated probability >67% to 99%) in wetlands, but also occur (estimated probability 1% to 33%) in non-wetlands
Facultative (FAC)	Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands
Facultative Upland (FACU)	Plants that occur sometimes (estimated probability 1% to <33%) in wetlands, but occur more often (estimated probability >67% to 99%) in non-wetlands
Obligate Upland (UPL)	Plants that occur rarely (estimated probability < 1%) in wetlands, but occur almost always (estimated probability >99%) in non-wetlands under natural conditions
No Indicator (NI)	Wetland indicator status not assigned. Species is assumed to be upland.

Within this Report, the hydrophytic vegetation indicators criterion was met if the USACE's Dominance Test and/or Prevalence Index –using absolute, rather than relative vegetation cover, were satisfied. Vegetation communities were evaluated for each WOTUS, wetland and other sensitive riparian / riverine location or water conveyance feature detected within the PS. Evaluations of vegetation communities were primarily limited to regions present within the OHWM and/or top of bed/bank, in addition to the outer limits of associated riparian / riverine vegetation. Vegetation communities were identified according to the percent cover of dominant plant species observed within each community. Vegetation classifications were based on a visual estimation of characteristic dominant flora within a type following Holland (1986) and/or Sawyer et al. (2009).

[2] USACE 2018 [https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html.

3.2.3 Soils

Soil texture, matrix, redoximorphic features (i.e., mottles), and any presence of subsoil layers impervious to water infiltration were documented from hand-excavated soil pits to the greatest extent practical. Soils were examined for positive hydric soil indicators such as low chroma, mottles (e.g., iron or manganese concretions), histic epipedons, organic layers, gleization, sulfidic odor or other primary hydric soil indicators listed on an Arid West Wetland Determination Data Form – as appropriate. Soil color and characteristics were determined from moist soil peds using Munsell Soil Color Book (Munsell Color 2000). When warranted and if possible, soils are evaluated in the field to a depth of approximately 8-20 inches, where possible. GPS position data are collected at each soil pit and detailed within Project figures – when this type of sampling is appropriate. If warranted, upland and wetland soil pits are evaluated as well to delineate the wetland/upland boundary – when necessary. Hydric soil assessments were predominately based upon the guidance provided in the Arid West Regional Supplement (USACE 2008b). General soil information for the PS was obtained from the online Geographic Information System (GIS) that provides the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) with soil data (NRCS 2024).

3.2.4 Hydrology & Impounded Features

Hydrology was evaluated in areas suspected of seasonal inundation and/or saturation to the surface during the growing season. Recent precipitation data was analyzed to evaluate the frequency and amount of rainfall events within the PS, and on surrounding lands. Hydrological information was also determined for features by signatures on aerial photographs over time, as well as field analysis of the presence/absence of primary - or secondary hydrological indicators (i.e., surface water, saturation, sediment or drift deposits, watermarks, soil cracks, oxidized root channels, and/or biotic or salt crusts). Personnel also examined if there was any physical evidence of a continuous surface water connection, or uninterrupted surface water connection to any (a)(1) through (a)(5) Waters, as described in Title 33 CFR Part 328(a). Additionally, impounded features – if observed, were assessed to determine if they possessed natural characteristics with indicators of all three (3) wetland parameters: 1) dominance of hydrophytic vegetation (or Facultative Neutral), 2) possess hydric soils in the upper part, and 3) wetland hydrology.

4.0 RESULTS

The elevation of the PS ranges from approximately 2,980 to 3,200 feet above mean sea level (AMSL).

4.1 PS Soils

The Web Soil Survey is an online Geographic Information System (GIS) that provides the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) with soil data (NRCS 2024). This website was used to assess soil characteristics and soil types within the PS. This database was also used to determine if the PS's mapped soils were likely to include any hydrologically influenced areas.

According to the USDA NRCS, the PS consists of three soil complexes:

- Cajon Loamy Sand, Loamy Substratum, 0 to 2 Percent Slopes
- Cajon-Wasco, Cool Complex, 2 to 9 Percent Slopes
- Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes

These soil types are depicted in Appendix A, Figure 4. According to the USDA NRCS, all three soils—Cajon Loamy Sand, Cajon-Wasco Cool Complex, and Helendale-Bryman Loamy Sands—are well-drained and primarily associated with upland, non-hydric conditions. They do not indicate the presence of waterways, wetlands or significant hydric characteristics, as they allow for rapid water infiltration and evaporation. These soils are typical of arid and semi-arid regions and are not unique or hydric in nature, making them less suitable for supporting waterways and wetland ecosystems.

4.2 PS Hydrology

The PS is located within the Mojave Watershed (Hydrologic Unit Code 18090208) (Appendix A, Figure 5). In general, signatures within the PS that flow – flow toward the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events. Still, due to the nature of ephemeral flows in the area, and the arid environment, flows from the PS – which is east of the Apple Valley Airport, are isolated and lack a continuous or permanent surface water connection to the Mojave River. The signatures detected within the PS are ephemeral features. They drain into intermittent channels or alluvial fans, where water quickly disperses by infiltration or evaporation before the water can make its way to any noteworthy watercourse.. Additionally, the FEMA (2024) flood zone is depicted in Appendix A, Figure 6.

4.3 Waters of the United States

The current delineation resulted in the identification of no WOTUS within the PS (Appendix A, Figure 3).

The data presented herein suggests that there are no signatures within the PS that possess a relatively permanent - or continuous and uninterrupted, surface water connection to any (a)(1) through (a)(5) Waters, as described in Title 33 CFR Part 328(a). Explicitly, there is no physical evidence of a relatively permanent surface water connection from the PS to a TNW], to any RPW, or to the Mojave River. The PS is isolated from any TNW, RPW and the Mojave River, as is lacks a connection to the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events.

Still, due to the nature of ephemeral flows in the area, and the arid environment, flows from the PS – which is east of the Apple Valley Airport, lack a continuous or relatively permanent surface water connection to the Mojave River. Therefore, based on the language provided in the new WOTUS rule, no signatures within the PS satisfy all the criteria and parameters to be considered a WOTUS.

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Appendix A
Figures

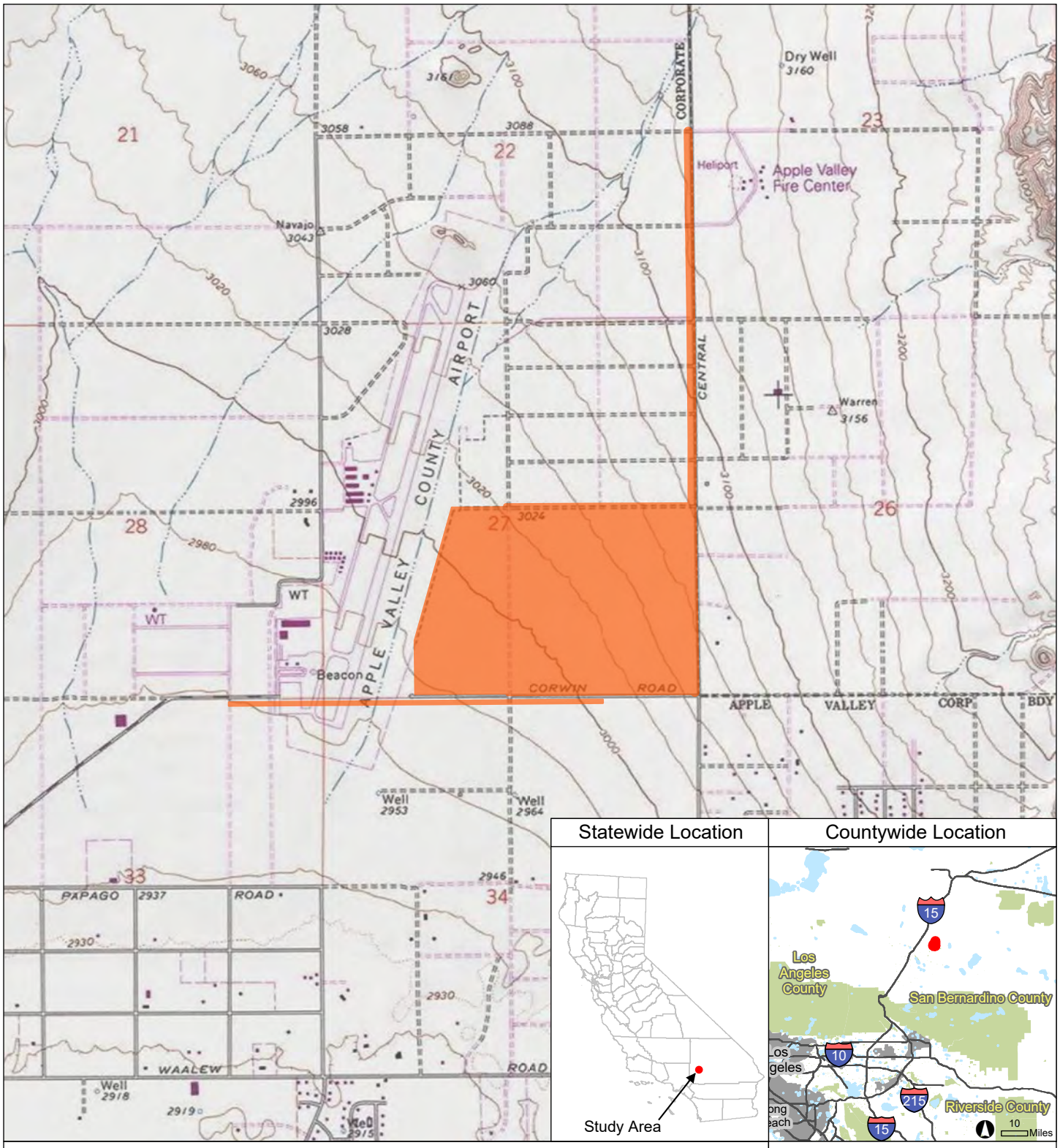
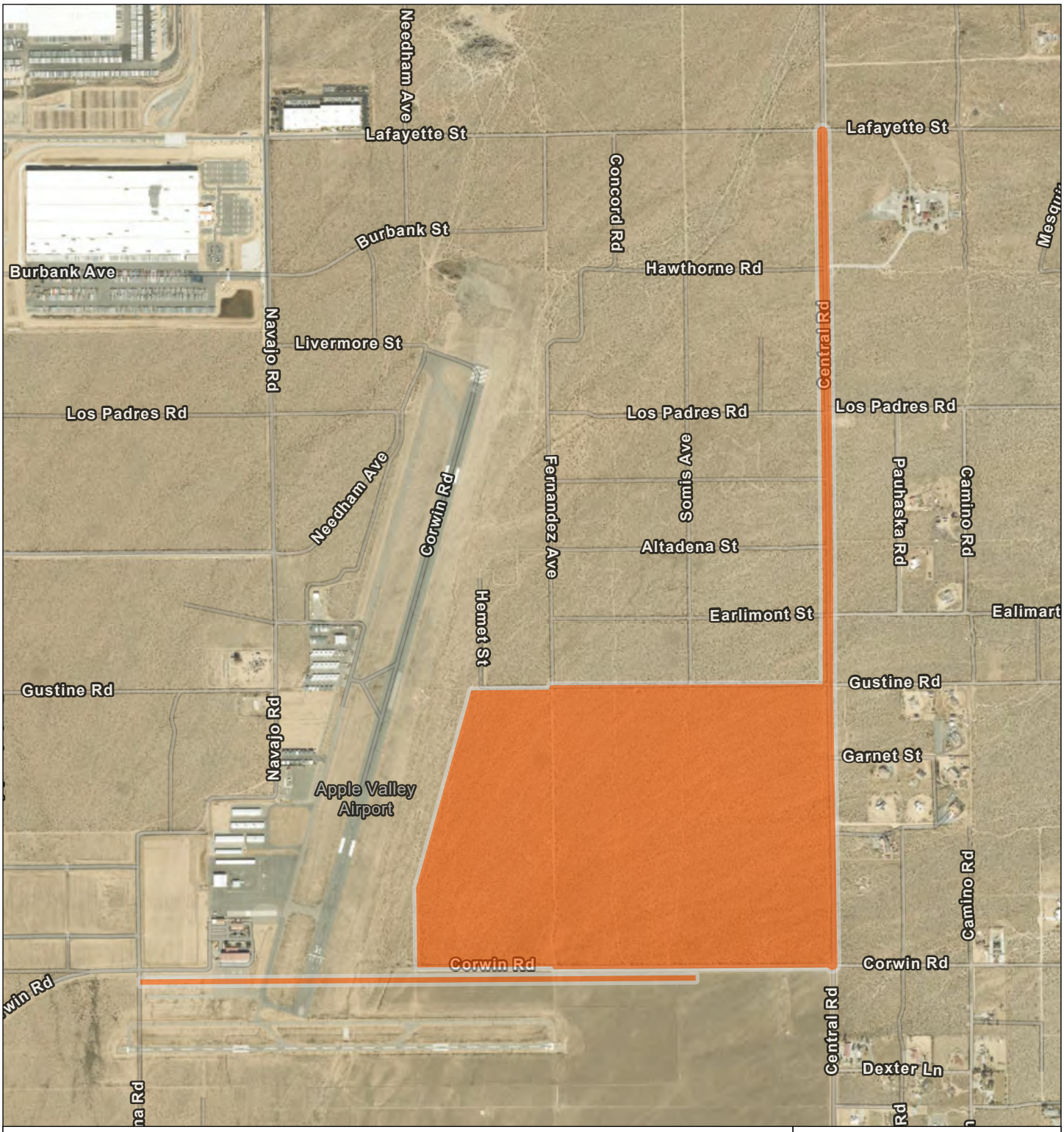


Figure 1. Regional Location



Project Site (256.26 ac)

0 677 1,354 Feet

1 inch = 1,354 feet

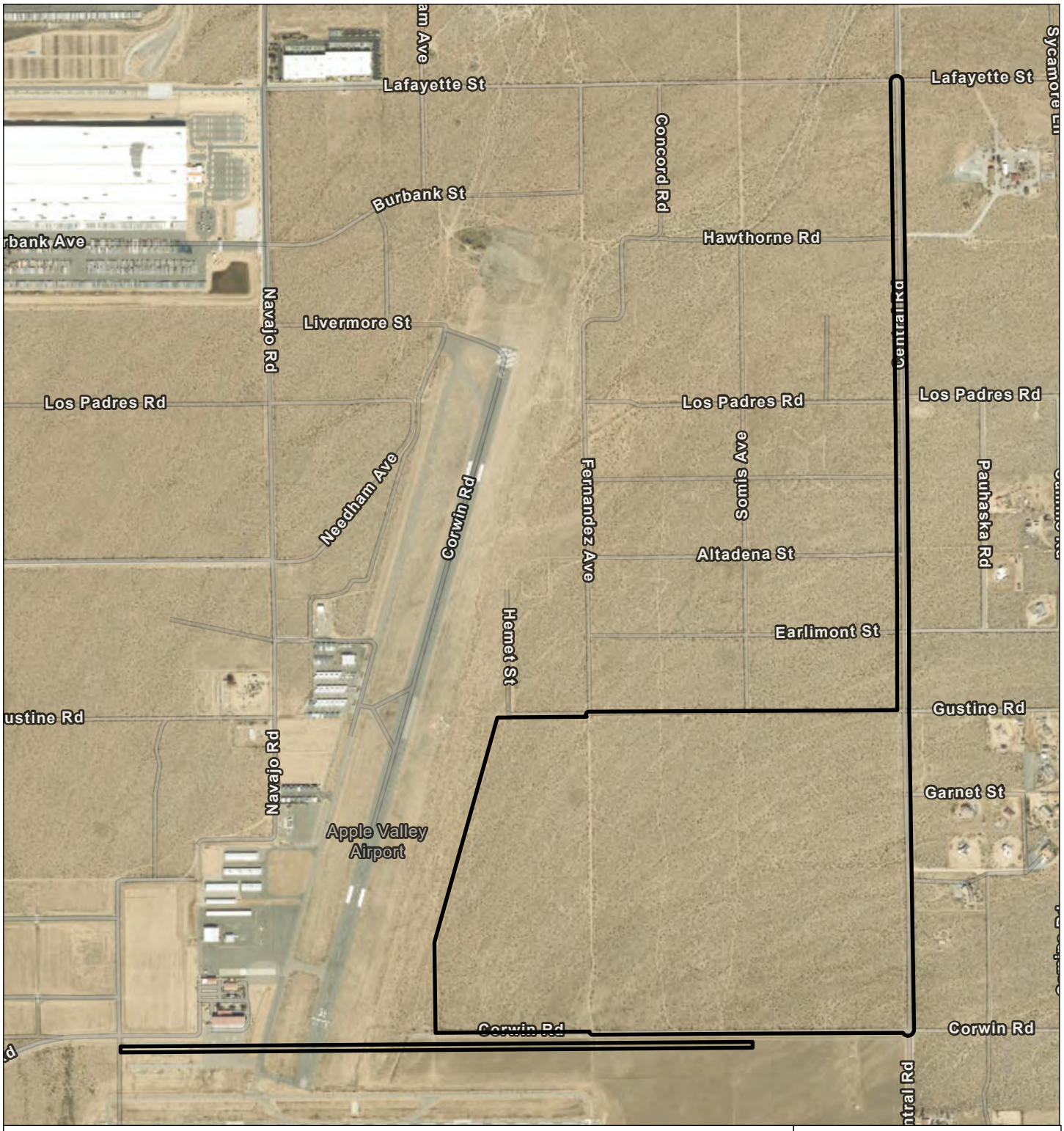
Data Sources:
- ESRI World Imagery accessed Jan 2025, imagery date: 2/1/2023

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity



Project Site (256.26 ac)

No Waters of the U.S. within Project Site

0 594 1,188 Feet

1 inch = 1,188 feet

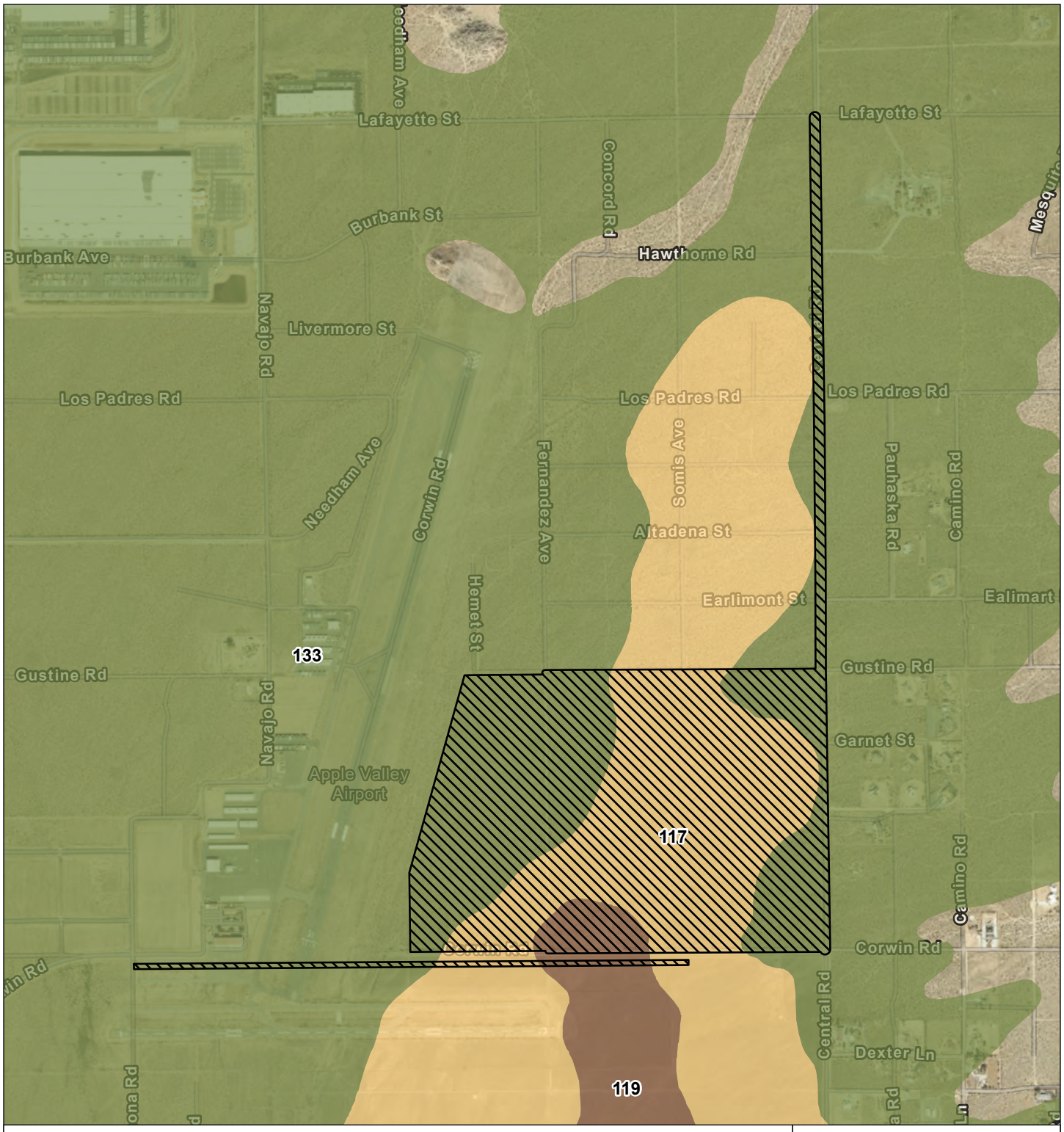
Data Sources:
- ESRI World Imagery accessed Jan 2025, imagery date: 2/1/2023

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 3. Waters of the U.S.



Project Site

Soil Types

117 - Cajon Loamy Sand, Loamy Substratum, 0 to 2 Percent Slopes

119 - Cajon-Wasco, Cool Complex, 2 to 9 Percent Slopes

133 - Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes

0 677 1,354 Feet

1 inch = 1,354 feet

Data Sources:
- ESRI World Imagery accessed Jan 2025, imagery date: 2/1/2023
- NRCS Web Soil Survey accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 4. Soils Map

Figure 5. Regional Watershed Map

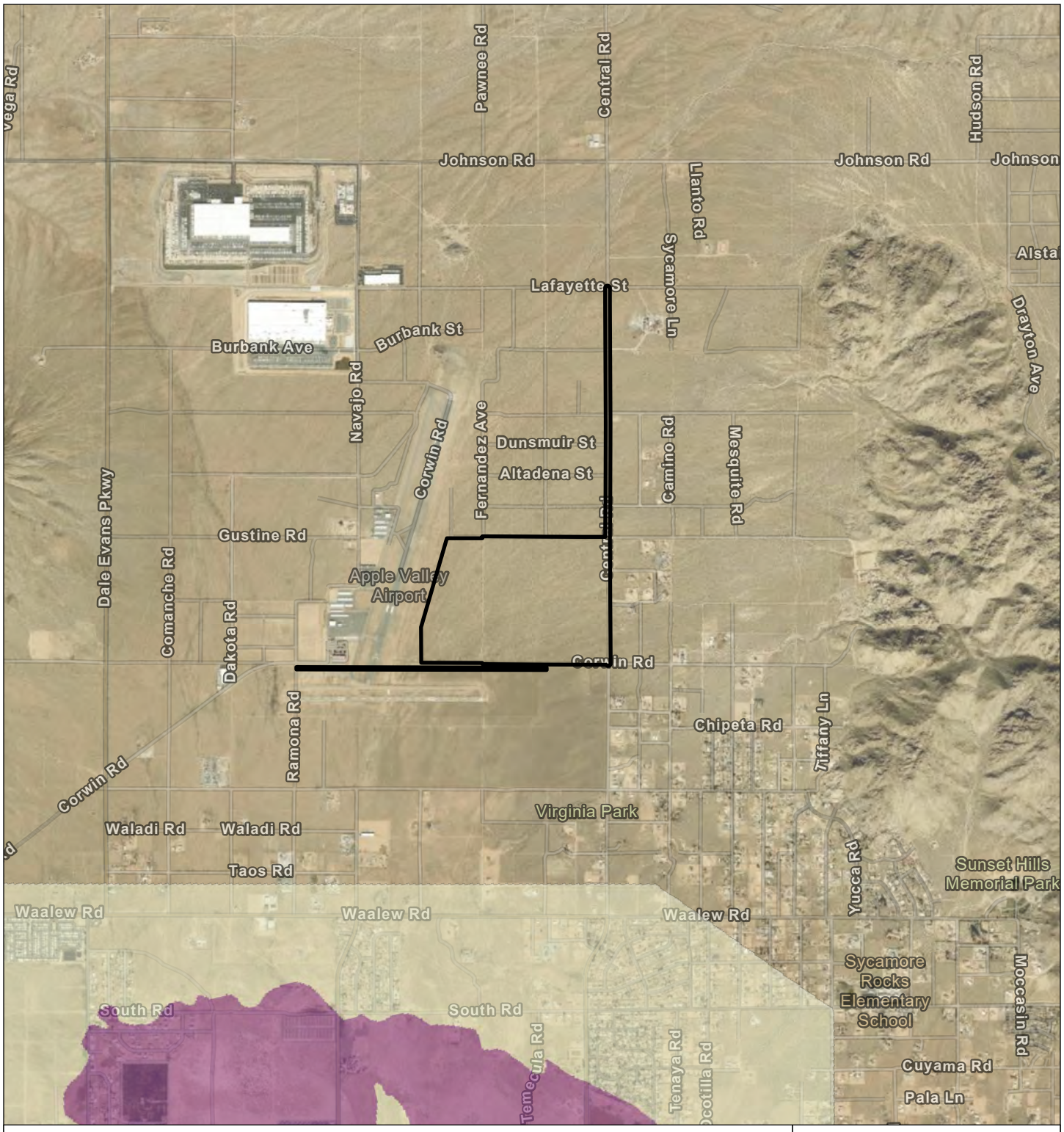


Figure 6. FEMA 100-Year Flood Zone

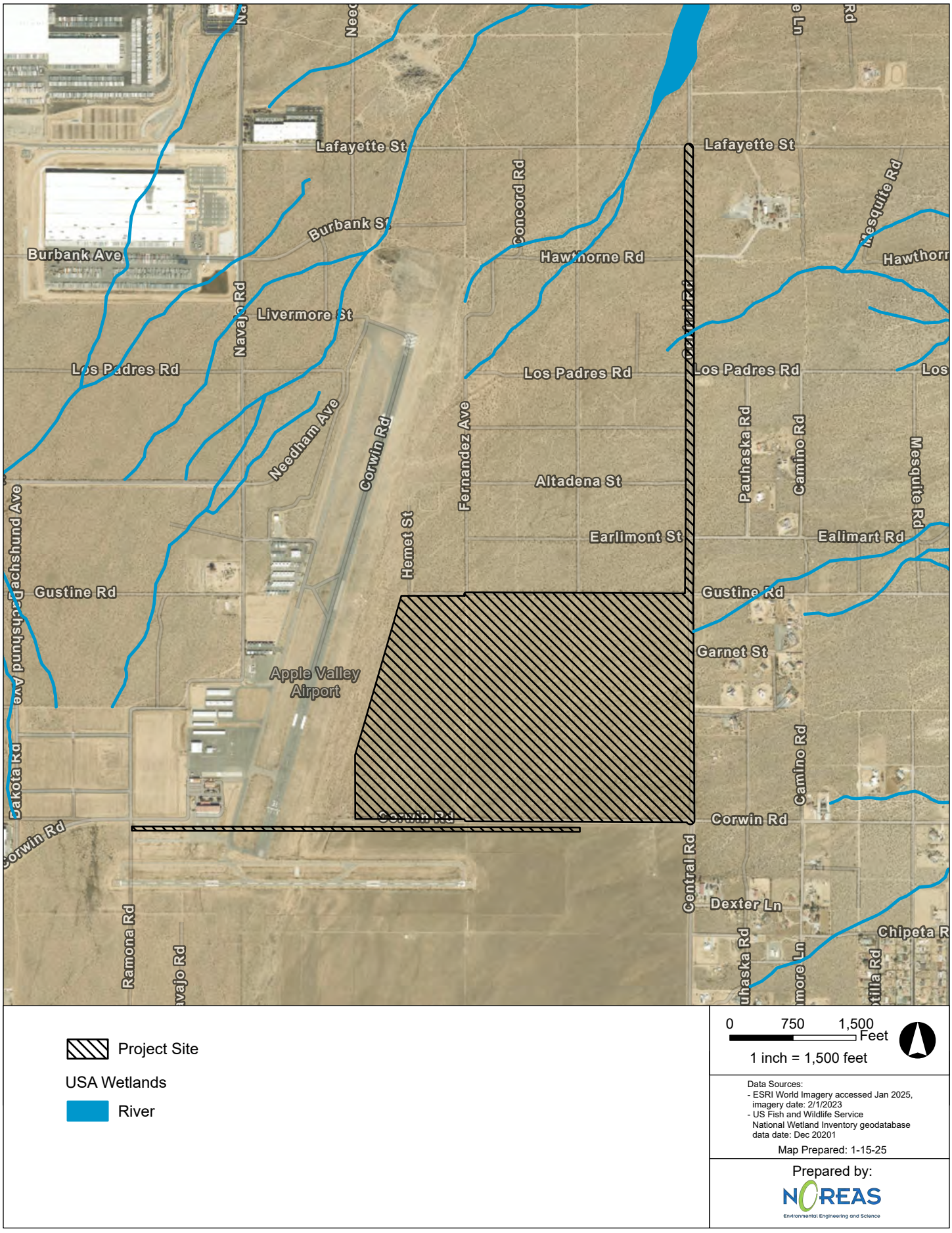
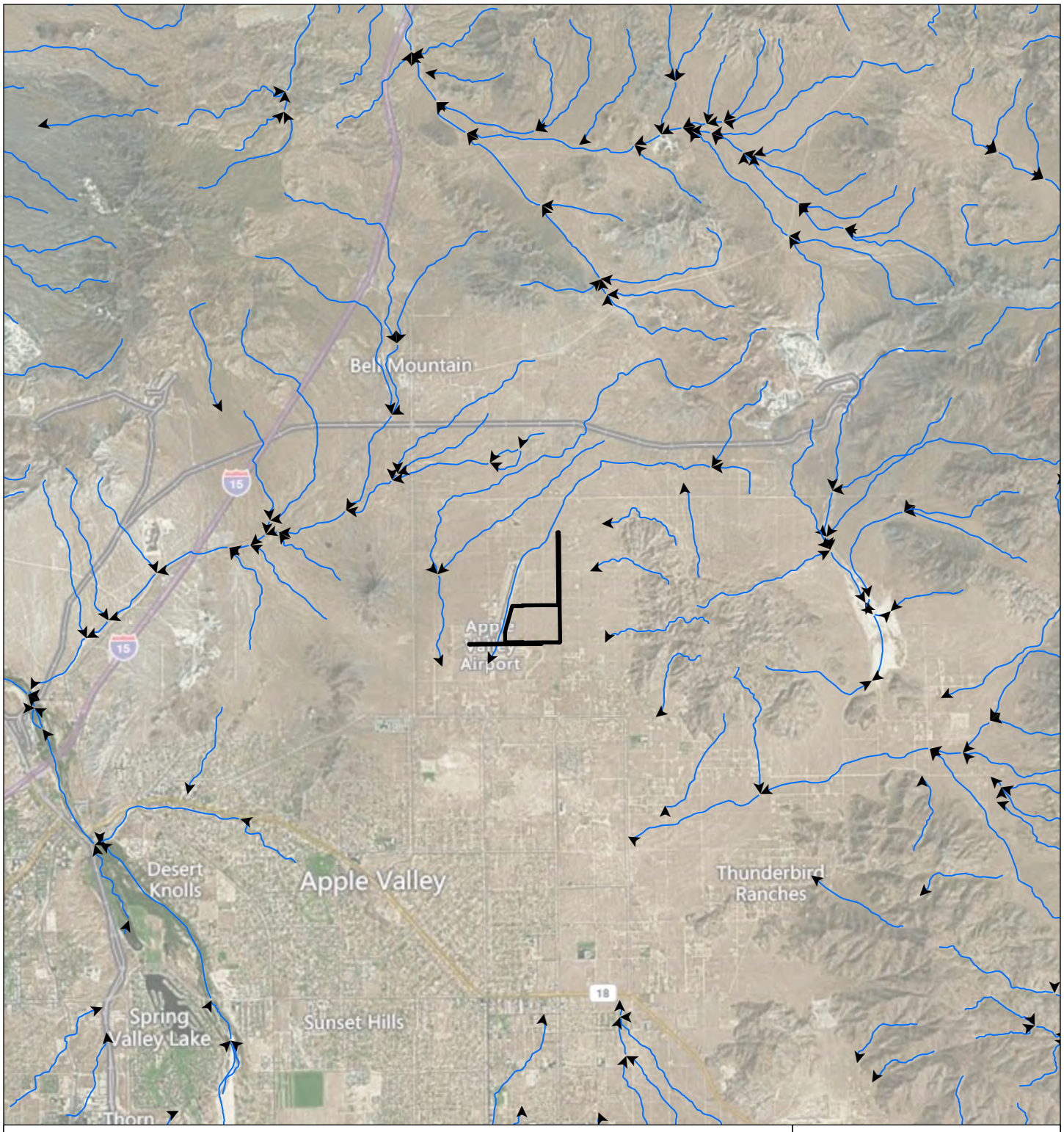


Figure 7. National Wetland Inventory



Project Site

Surface Water Flowlines and Flow Direction

0 1 2 Miles

1 inch = 2 miles

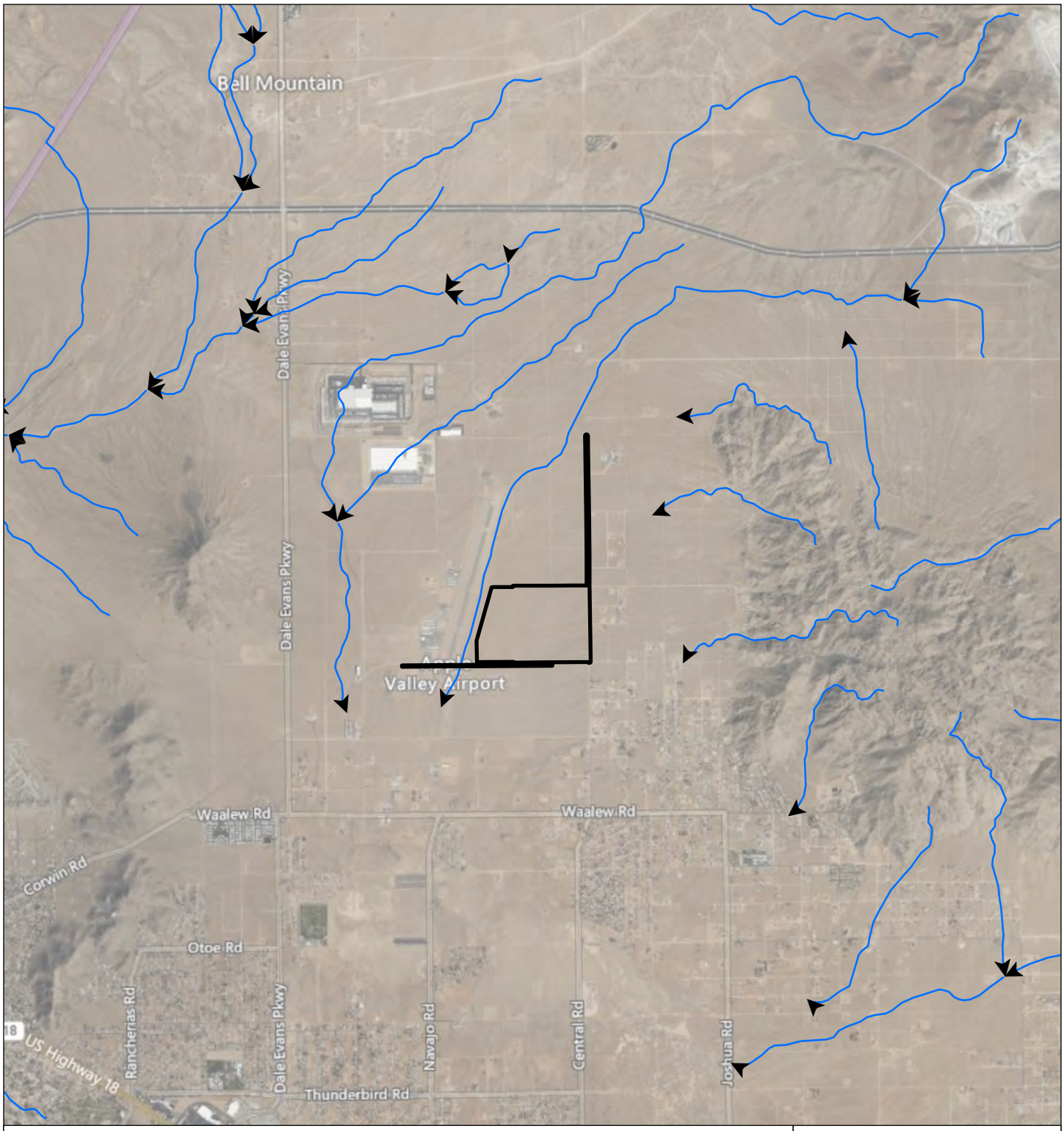
Data Sources:
- Bing Maps Hybrid accessed Jan 2025
- USGS National Hydrology Dataset Plus Version 2.1 accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 8. Surface Water Map (Regional Area)



Project Site

Surface Water Flowlines and Flow Direction

0 0.45 0.9 Miles

1 inch = 0.9 mile

Data Sources:
- Bing Maps Hybrid accessed Jan 2025
- USGS National Hydrology Dataset Plus Version 2.1 accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 9. Surface Water Map (Local Area)

Appendix B
Photographic Log

	Photograph 1. Representative Image of PS.
	Photograph 2. Representative Image of PS.

	Photograph 3. Representative Image of PS.
	Photograph 4. Representative Image of PS.

	Photograph 5. Representative Image of PS.
	Photograph 6. Representative Image of PS.

APPENDIX J
DELINEATION OF WATERS OF THE STATE

LAKE CREEK LOGISTICS CENTER PROJECT

Delineation of Waters of the State

January 2025

U.S. Geological Survey 7.5-Minute Apple Valley North Quadrangle

City of Apple Valley, San Bernardino County, California

Prepared By

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Certification

The undersigned certify - under penalty of law, that they have personally examined and are familiar with the information submitted in this document and all attachments and that, based on an inquiry of those individuals immediately responsible for obtaining the information, believe that the information is true, accurate, and complete. The undersigned are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

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APPENDICES

COMMON ACRONYMS AND ABBREVIATIONS

AMSL	Above mean sea level
CDFW	California Department of Fish and Wildlife
CDFG	California Department of Fish and Game
CFGC	California Fish and Game Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CWC	California Water Code
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GPS	Global Positioning Systems
HUC	Hydrologic Unit Code
LRSs	Lake, River, or Streambed subject to Section 1600 of the California Fish and Game Code
MESA	Mapping Episodic Stream Activity Field Guide
NOREAS	NOREAS Inc.
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
RWQCB	Regional Water Quality Control Board
PS	Project Site
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTS	Waters of the State

1.0 INTRODUCTION AND SUMMARY OF FINDINGS

The following assessment is intended to delineate the extent of Waters of the State (WOTS) - pursuant to Section 1600 (et seq.) of the California Fish and Game Code (CFG Code), and Section 13260 of the California Water Code (CWC), for the Lake Creek Logistics Center Project (hereafter referred to as the Project). The Project is located in Apple Valley, an incorporated town in the Victor Valley, of San Bernardino County, California. This document examines an approximately 256-acres Project Site (PS), located east of the Apple Valley Airport, north of Cordin Road, and along Central Road to the intersection of Lafayette Street (Appendix A, Figures 1 and 2).

This evaluation has been completed using data acquired from current and historic imagery, hydrologic databases, analytic tools, physical on the ground analyses and measurements, and a review of the regulations, manuals, and guidance documentation created to identify features regulated under the aforementioned CFG Code and CWC sections. A description of mapped WOTS within the PS and a discussion of their character, and regulatory status is provided herein. Please note that this assessment was conducted following descriptions in the CFG Code, as well as guidance created by California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB).

Subject matter experts assessed the PS and it localized watershed for the presence of hydrophytes, distinct soils, riparian and riverine resources, lakes, rivers, streambeds, surface waters and wetlands throughout April and October 2022, January and April 2023, September and December of 2024. Historic and current aerial photography of the PS were reviewed - prior to, and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. The United States Environmental Protection Agency (EPA) WATERS GeoViewer tool also provided access to spatial data sets - such as interactive upstream and downstream search capabilities, to assist in determining the jurisdictional status of resources detected within the region. Additionally, the Federal Emergency Management Agency (FEMA) flood zone was reviewed, and the National Wetland Inventory – which is maintained by the U.S. Fish and Wildlife Service (USFWS). This was all done to support the identification of potential WOTS within the PS.

The data presented herein implies that there are 1.99-acres of WOTS within the PS that are subject to regulation under Section 1600 (et seq.) of the CFG Code, and Section 13260 of the CWC. At nine (9) specific locales within the PS, ephemeral non-riparian streambeds which total 8,668 linear feet were mapped. Features 1 through 9 are isolated, but their general flow direction is toward the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events. Still, due to the nature of ephemeral flows in the area, and the arid environment, flows from the PS – which is east of the Apple Valley Airport, lack a continuous or permanent surface water connection to the Mojave River. As these ephemeral features drain into intermittent channels or alluvial fans, where water quickly disperse, infiltrate or evaporate before making their way to any noteworthy watercourse. Nevertheless, it has been determined that Features 1 through 9 are WOTS (Appendix A, Figure 3).

With that said, this delineation presents NOREAS Inc. (NOREAS) best professional judgment at estimating WOTS boundaries using the most up-to-date regulations, written policies, and guidance from the CDFW and the RWQCB.

2.0 REGULATORY SETTING

2.1 Regulatory Review

2.1.1 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 WOTS. WOTS are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

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 (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 WOTS:

1. *Natural wetlands;*

2. *Wetlands created by modification of a surface water of the state*[1]*; and*

3. *Artificial wetlands*[2] *that meet any of the following criteria:*

   a. Approved by an agency as compensatory mitigation for impacts to other WOTS, 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 WOTS

[1] "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.

[2] Artificial wetlands are wetlands that result from human activity.

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,
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.

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 WOTS. 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.

2.1.2 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. In its most general sense, CFG Code Sections 1600 (et seq.) establishes a fee-based process to safeguard that projects conducted in and around lakes, rivers, or streams do not adversely impact fish, aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife resources. Or, when adverse impacts cannot be avoided, compliance with the aforesaid CFG Code Sections safeguards that adequate mitigation and/or compensation is provided.

While there is no definition for the term lake in the CFG Code or associated regulations, the term stream, which includes creeks and rivers, is defined within Title 14, California Code of Regulations (CCR), Section 1.72:

- "A stream is 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 a surface or subsurface flow that supports or has supported riparian vegetation."

Sections 1600-1602 of the California Fish and Game Code Definition

1600. The Legislature finds and declares that the protection and conservation of the fish and wildlife resources of this state are of utmost public interest. Fish and wildlife are the property of the people and provide a major contribution to the economy of the state, as well as providing a significant part of the people's food supply; therefore, their conservation is a proper responsibility of the state.

This chapter is enacted to provide conservation for these resources.

1601. The following definitions apply to this chapter:

(a) "Agreement" means a lake or streambed alteration agreement.
(b) "Day" means calendar day.
(c) "Emergency" has the same definition as in Section 21060.3 of the Public Resources Code.
(d) "Entity" means any person, state or local governmental agency, or public utility that is subject

to this chapter.

1602. (a) An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement ***where it may pass into any river, stream, or lake***, unless all of the following occur:

(1) The department receives written notification regarding the activity in the manner prescribed by the department. The notification shall include, but is not limited to, all of the following:

(A) A detailed description of the project's location and a map.

(B) The name, if any, of the river, stream, or lake affected.

(C) A detailed project description, including, but not limited to, construction plans and drawings, if applicable.

(D) A copy of any document prepared pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(E) A copy of any other applicable local, state, or federal permit or agreement already issued.

(F) Any other information required by the department.

(2) The department determines the notification is complete in accordance with Chapter 4.5 (commencing with Section 65920) of Division 1 of Title 7 of the Government Code, irrespective of whether the activity constitutes a development project for the purposes of that chapter.

(3) The entity pays the applicable fees, pursuant to Section 1609.

(4) One of the following occurs:

(A)

(i) The department informs the entity, in writing, that the activity will not substantially adversely affect an existing fish or wildlife resource, and that the entity may commence the activity without an agreement, if the entity conducts the activity as described in the notification, including any measures in the notification that are intended to protect fish and wildlife resources.

(ii) Each region of the department shall log the notifications of activities where no agreement is required. The log shall list the date the notification was received by the department, a brief description of the proposed activity, and the location of the activity. Each item shall remain on the log for one year. Upon written request by any person, a regional office shall send the log to that person monthly for one year. A request made pursuant to this clause may be renewed annually.

(B) The department determines that the activity may substantially adversely affect an existing fish or wildlife resource and issues a final agreement to the entity that includes reasonable measures necessary to protect the resource, and the entity conducts the activity in accordance with the agreement.

(C) A panel of arbitrators issues a final agreement to the entity in accordance with subdivision (b) of Section 1603, and the entity conducts the activity in accordance with the agreement.

(D) The department does not issue a draft agreement to the entity within 60 days from the date notification is complete, and the entity conducts the activity as described in the notification, including any measures in the notification that are intended to protect fish and wildlife resources.

(b) (1) If an activity involves the routine maintenance and operation of water supply, drainage, flood control, or waste treatment and disposal facilities, notice to and agreement with the department shall not be required after the initial notification and agreement, unless the department determines either of the following:

(A) The work described in the agreement has substantially changed.

(B) Conditions affecting fish and wildlife resources have substantially changed, and those resources are adversely affected by the activity conducted under the agreement.

(2) This subdivision applies only if notice to, and agreement with, the department was attained prior to January 1, 1977, and the department has been provided a copy of the agreement or other proof of the existence of the agreement that satisfies the department, if requested.

(c) It is unlawful for any person to violate this chapter.

3.0 METHOD

Prior to performing field surveys, documentation relevant to the PS and surrounding area was reviewed using the methods and databases listed below.

3.1 Literature Reviews

Prior to conducting fieldwork, the following information was reviewed to determine watershed characteristics, locations and types of aquatic resources that may be present within the PS:

- Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2024) (Appendix A, Figure 4);
- Natural Resource Conservation Service, Watershed Boundary Dataset (USDA-NRCS 2024b) (Appendix A, Figure 5);
- Federal Emergency Management Agency (FEMA 2024) (Appendix A, Figure 6);
- National Wetlands Inventory (NWI) maintained by the US Fish and Wildlife Service (USFWS 2024) (Appendix A, Figure 7);
- Prado Dam, California, Topographic Map 7.5-minute USGS Map (USGS 1987);
- 2024 color aerial photographs (Bing Maps 2024);
- Google Earth version 5.2.1.1588 (March 2024);
- Environmental Protection Agency Enviromapper for Water (EPA 2024a);
- Environmental Protection Agency (EPA 2024b) WATERS GeoViewer Tool (epa.maps.arcgis.com/apps/webappviewer) (Appendix A, Figures 8 and 9);
- Environmental Protection Agency (EPA 2024 c).) Antecedent Precipitation Tool (APT) (epa.gov/wotus/antecedent-precipitation-tool-apt); and
- Western Regional Climate Center data for Apple Valley, California (WRCC 2024).

The PS was examined to assess the presence of hydrophytes, distinct soils, riparian and riverine resources, lakes, rivers, streambeds, surface waters and wetlands, discernable bed and bank signatures, aquatic fish and wildlife resources, or evidence of a change in vegetation type, density, or vigor. The intent of this assessment was to determine where water may flow, or may not flow - or terminate, and was used to determine efficient locations for visual inspections to occur in the field.

3.1.1 Aerial Photography

Historic and current aerial photography of the PS were reviewed, prior to and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. Inundation and vegetative signatures on aerial images can imply the presence - or absence, of lakes, rivers, or streambed systems within a discrete location.

3.1.2 U.S. Fish and Wildlife Service National Wetland Inventory Data and Environmental Protection Agency WATERS GeoViewer

The EPA WATERS GeoViewer tool provided access to spatial data sets (Appendix A, Figures 8 and 9) - such as interactive Upstream/Downstream search capabilities, and interactive watersheds, to assist in determining the jurisdictional status of resources detected within the PS (epa.maps.arcgis.com/apps/webappviewer). Additionally, the FEMA flood zone is depicted in Appendix A, Figure 6. Furthermore, the NWI – which is maintained by the USFWS, was reviewed to support the identification of potential jurisdictional resources within the PS. However, this database (i.e., the NWI) specifically rejects its use for regulatory jurisdictional review.

3.1.3 Antecedent Precipitation Tool

The Antecedent Precipitation Tool (APT) was also utilized to determine whether field observations are representative of typical climatic conditions (i.e., those that have been experienced over the past thirty years). This tool is informative when assessing whether certain field conditions are observed during typical, as opposed to atypical rainfall cycles. The APT queries data from weather stations that are located within a 30-mile radius from the Project.

3.1.4 Topography

USGS topographic maps were reviewed as well (Appendix A, Figure 1). These maps tend to illustrate elevation contours, drainage patterns, and hydrography within the PS. USGS 7.5-Minute Topographic Quadrangles "Apple Valley North" was evaluated to facilitate identification of potential drainage features within the PS - as indicated from topographic changes, blue-line features, or visible drainage patterns in order to characterized features.

3.2 Procedures and Field Data Collection Techniques

The delineation defined areas within the PS subject to regulation under Section 1600 (et seq.) of the CFG Code and Section 13260 of the California Water Code (CWC). Potential WOTS were delineated in the field with a handheld Global Positioning System (GPS) receiver. The surface area of each feature was then calculated within a Geographic Information System (GIS) to determine total jurisdictional area within the PS. KMZ (Keyhole Markup Language Zipped) files and GIS/ESRI shapefiles are available for all mapped resources, upon request, as aquatic resource boundaries were not permanently flagged or demarked within the PS at the time of delineation in 2024.

The field delineation for WOTS was conducted within the PS using a combination of on the ground quantification, and remote sensing with on the ground verification via pedestrian surveys throughout April and October 2022, January and April 2023, September and December of 2024. With respect to suspected WOTS; they were assessed in the field for the presence of definable streambeds (i.e., having a bed, bank, and channel) and any associated riparian habitat. Streambeds and suspected riparian habitats were also evaluated using the CFGC Section 1600 (et seq.), direction described in *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607* (ESD-CDFG 1994) and the recommendations detailed within the Mesa Field Guide: Mapping Episodic Stream Activity (Vyverberg et al. 2014) (MESA).

Accordingly, CFGC Section 1600 (et seq.) jurisdiction is presumed to extend to the following features:

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects, and riparian vegetation will be treated like natural waterways.
- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses, should be treated as natural waterways.
- Artificial waterways without the attributes of natural waterways should generally not be subject to CFGC provisions.

In this context, WOTS include rivers, streams, lakes, and riparian vegetation associated with these features. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine regulated riparian areas, where appropriate. Streambeds and other waterways were also delineated using the Cowardin method of classification, which defines water conveyance boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology). Additionally, WOTS were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed.

4.0 RESULTS

The elevation of the PS ranges from approximately 2,980 to 3,200 feet above mean sea level (AMSL).

4.1 PS Soils

The Web Soil Survey is an online Geographic Information System (GIS) that provides the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) with soil data (NRCS 2024). This website was used to assess soil characteristics and soil types within the PS. This database was also used to determine if the PS's mapped soils were likely to include any hydrologically influenced areas.

According to the USDA NRCS, the PS consists of three soil complexes:

- Cajon Loamy Sand, Loamy Substratum, 0 to 2 Percent Slopes
- Cajon-Wasco, Cool Complex, 2 to 9 Percent Slopes
- Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes

These soil types are depicted in Appendix A, Figure 4. According to the USDA NRCS, all three soils—Cajon Loamy Sand, Cajon-Wasco Cool Complex, and Helendale-Bryman Loamy Sands—are well-drained and primarily associated with upland, non-hydric conditions. They do not indicate the presence of waterways, wetlands or significant hydric characteristics, as they allow for rapid water infiltration and evaporation. These soils are typical of arid and semi-arid regions and are not unique or hydric in nature, making them less suitable for supporting waterways and wetland ecosystems.

4.2 PS Hydrology

The PS is located within the Mojave Watershed (Hydrologic Unit Code 18090208) (Appendix A, Figure 5). In general, ephemeral channels within the PS that flow – flow toward the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events. Still, due to the nature of ephemeral flows in the area, and the arid environment, flows from the PS – which is east of the Apple Valley Airport, lack a continuous or permanent surface water connection to the Mojave River. As these ephemeral features drain into intermittent channels or alluvial fans, where water quickly disperse, infiltrate or evaporate before making their way to any noteworthy watercourse. Additionally, the FEMA (2024) flood zone is depicted in Appendix A, Figure 6.

4.3 Waters of the State

The data presented herein implies that there are 1.99-acres of WOTS within the PS that are subject to regulation under Section 1600 (et seq.) of the CFG Code, and Section 13260 of the CWC (Table 2).

At nine (9) specific locales within the PS, ephemeral non-riparian streambeds which total 8,668 linear feet were mapped. Features 1 through 9 are isolated, but their general flow direction is toward the Mojave River, which is the most significant watercourse in the Apple Valley region. Nonetheless, the Mojave River is an ephemeral river itself, meaning it only has surface flows during significant rainfall events. Due to the nature of ephemeral flows in the area, and the arid environment, flows from the PS lack a continuous or permanent surface water connection to the Mojave River. The ephemeral features within the PS drain into intermittent channels or alluvial fans, where water quickly disperse, infiltrate or evaporate before making their way to any noteworthy watercourse.

Table 2. Estimated Amount of WOTS within the PS[3]

Unique Identifier	***Total Acreage***	***Length (ft)***	***Non-Riparian Ephemeral Streambed***	***Average Width (avg ft)***
Feature 1	1.52	6,120	1.52	15
Feature 2	0.38	2,275	0.38	8
Feature 3	0.002	11	0.002	9
Feature 4	0.01	35	0.01	10
Feature 5	0.02	34	0.02	22
Feature 6	0.01	40	0.01	12
Feature 7	0.003	51	0.003	6
Feature 8	0.024	51	0.024	10
Feature 9	0.015	51	0.015	8
Totals	1.99	8,668	1.99	11.11

It has been determined that Features 1 through 9 are WOTS, and are therefore subject to regulation under Section 1600 (et seq.) of the CFG Code, and Section 13260 of the California Water Code (CWC), as WOTS (Appendix A, Figure 3).

[3] Due to rounding error, the sum of individual acreages differs from the subtotals.

5.0 RECOMMENDATIONS

The following measures are recommended as a means of avoiding and minimizing adverse effects to WOTS that have the potential to occur within the PS.

- Prior to undertaking ground-disturbing activities within or immediately adjacent to any WOTS, consult with the appropriate responsible resource agency to verify the results detailed herein, and complete any necessary discretionary permits/ authorizations if avoidance of WOTS areas are not possible.

The services performed and documented in this report have been conducted in a manner consistent with the level of care, and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied, and no warranty - or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of special aquatic resource areas are based on limited data despite due professional care

6.0 REFERENCES

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USGS (United States Geological Service). 1987. 7.5-Minute Quadrangle Prado Dam, California.

Western Regional Climate Center (WRCC). 2024. Period of Record Monthly Climate Summary for Apple Valley, California. Available online at: https://wrcc.dri.edu.

Appendix A
Figures

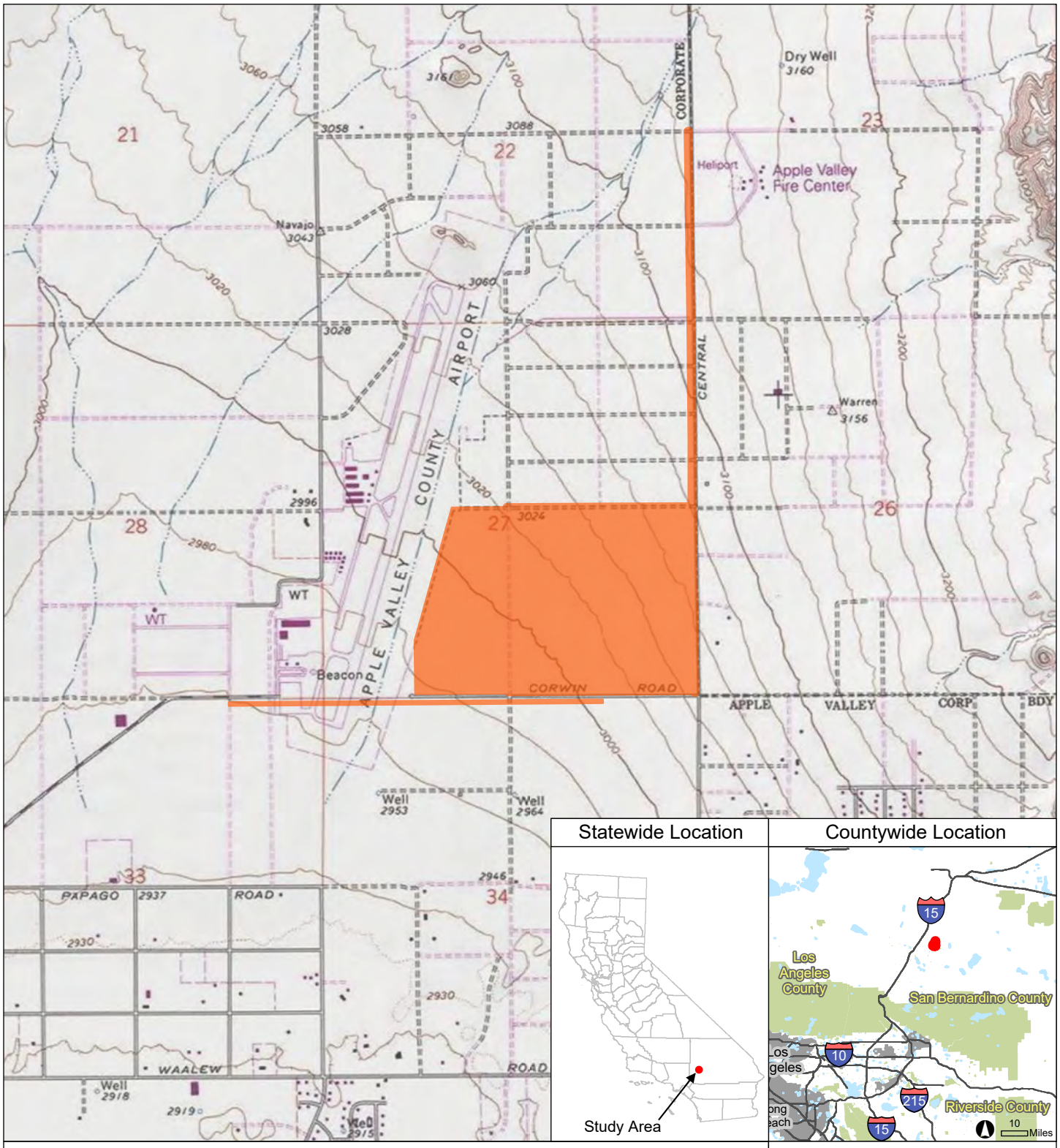
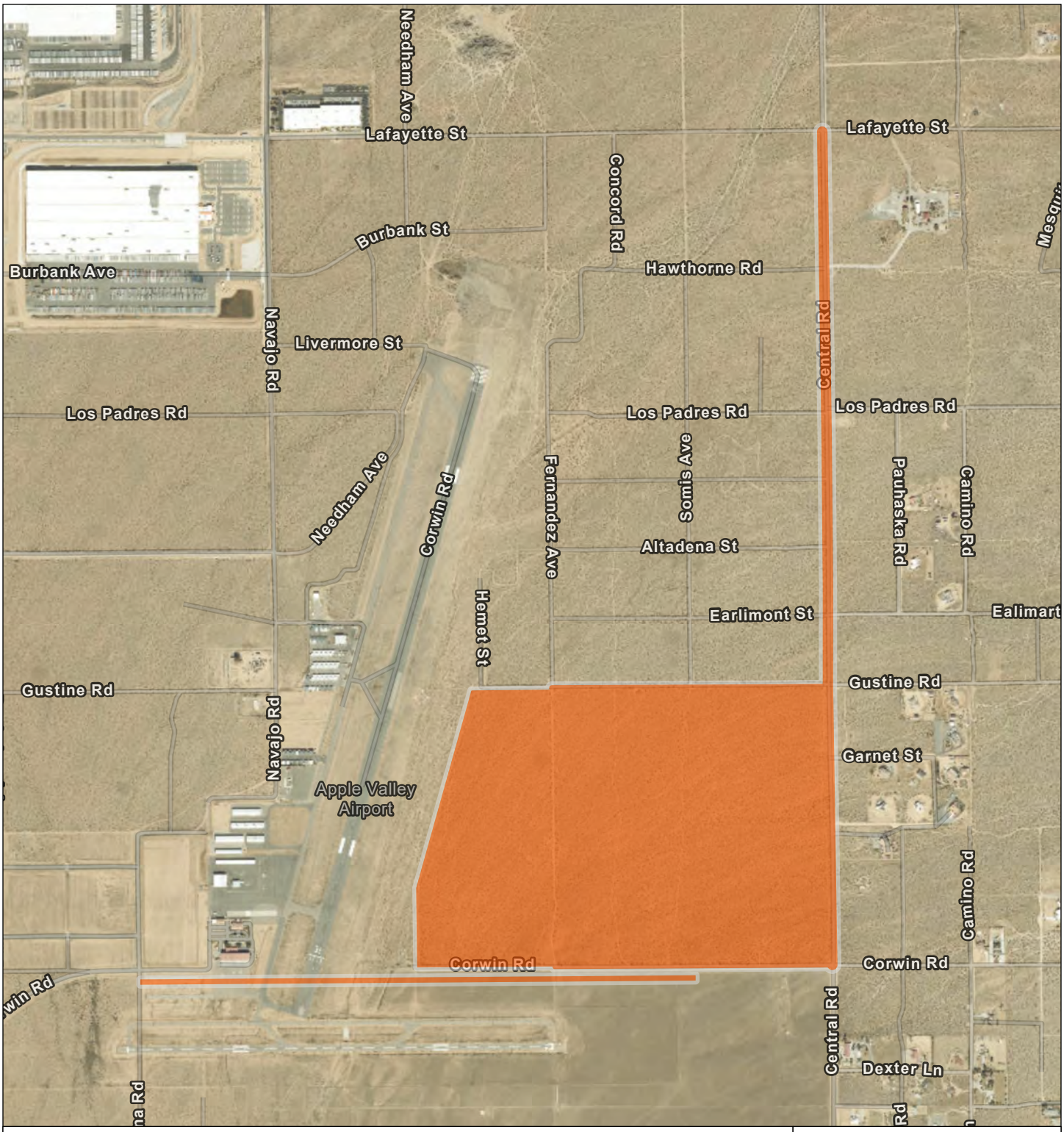


Figure 1. Regional Location



Project Site (256.26 ac)

0 677 1,354 Feet

1 inch = 1,354 feet

Data Sources:
- ESRI World Imagery accessed Jan 2025, imagery date: 2/1/2023

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 2. Site Vicinity

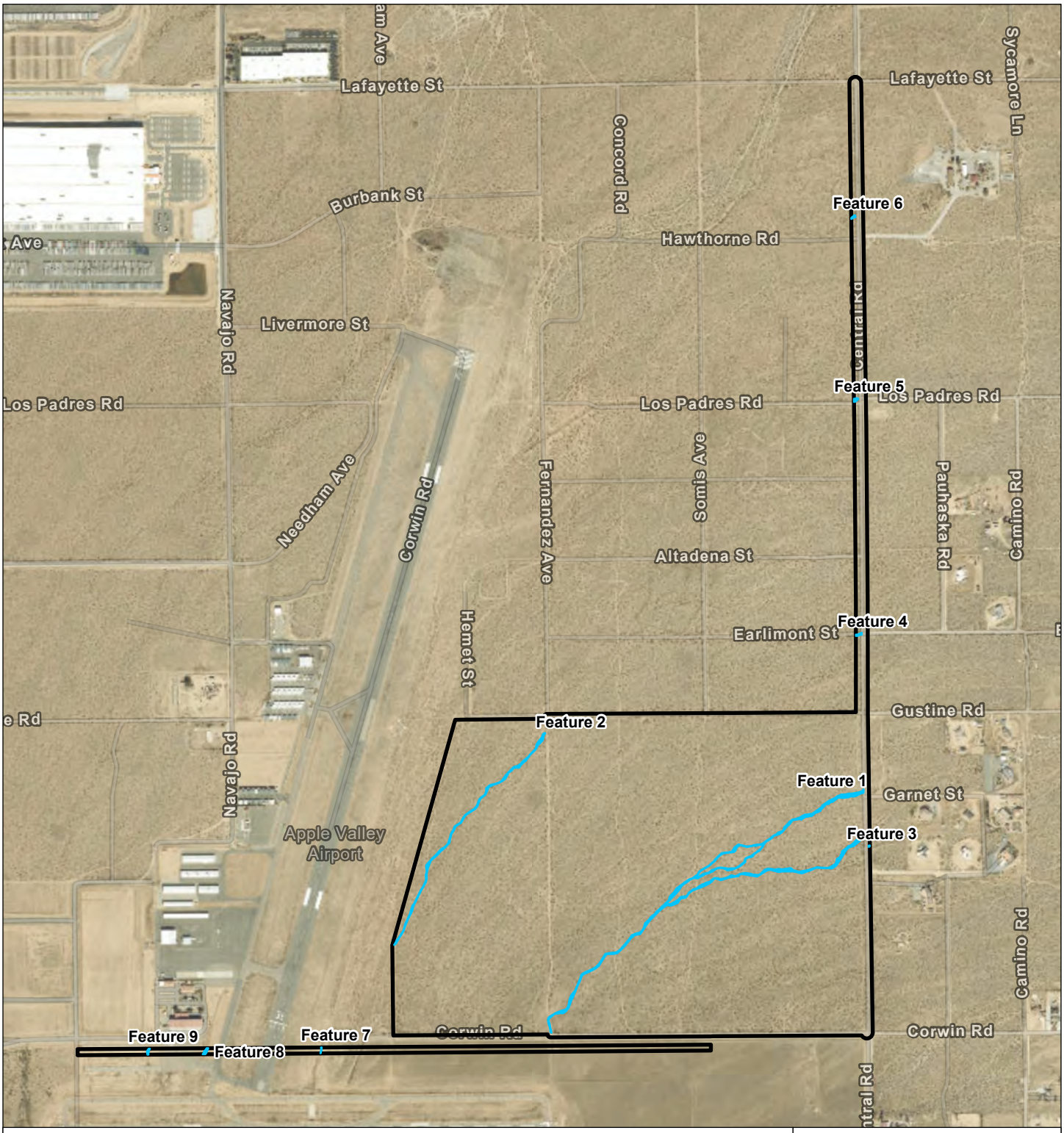
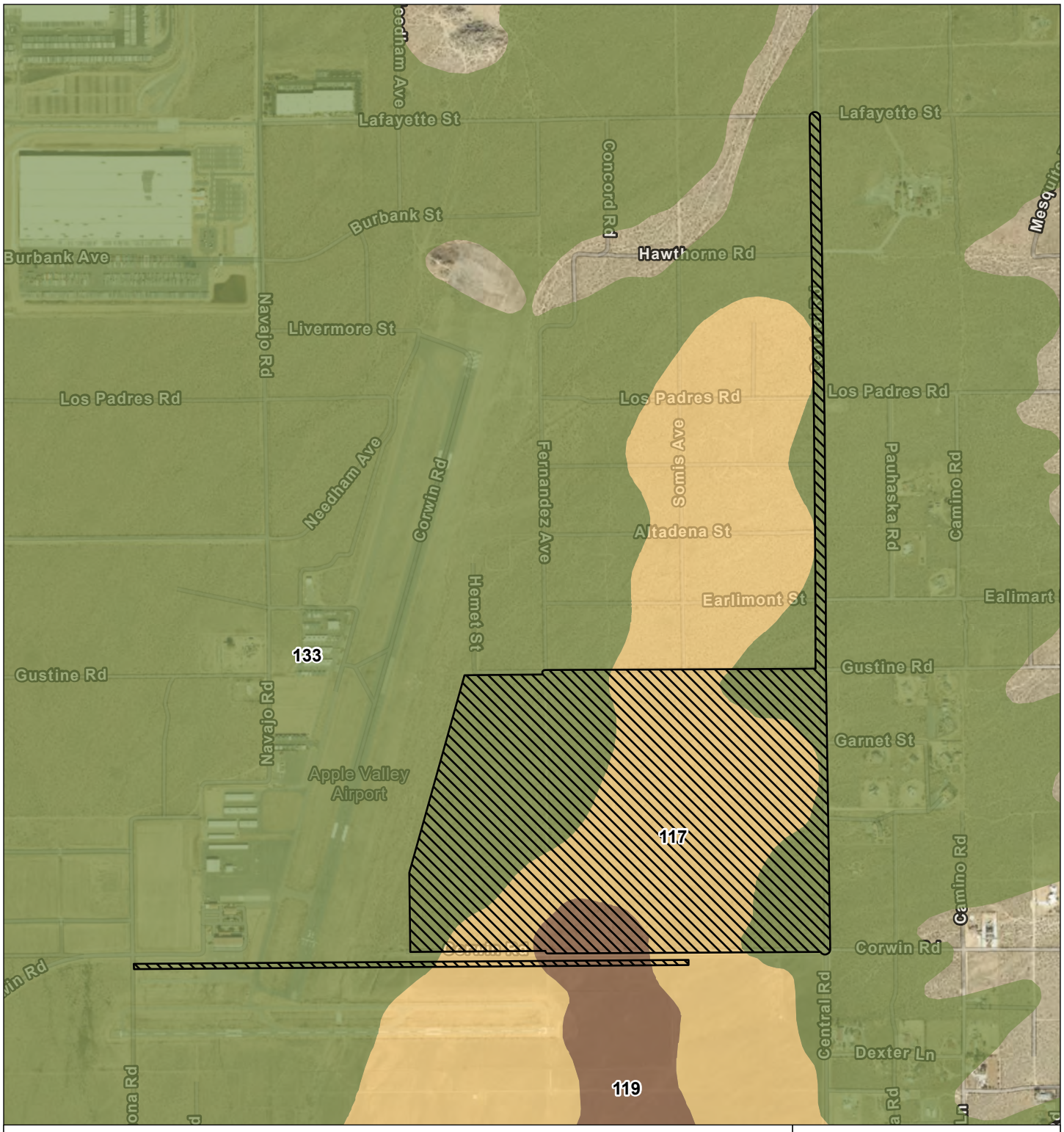


Figure 3. Waters of the State Overview



Project Site

Soil Types

117 - Cajon Loamy Sand, Loamy Substratum, 0 to 2 Percent Slopes

119 - Cajon-Wasco, Cool Complex, 2 to 9 Percent Slopes

133 - Helendale-Bryman Loamy Sands, 2 to 5 Percent Slopes

0 677 1,354 Feet

1 inch = 1,354 feet

Data Sources:
- ESRI World Imagery accessed Jan 2025, imagery date: 2/1/2023
- NRCS Web Soil Survey accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 4. Soils Map

Figure 5. Regional Watershed Map

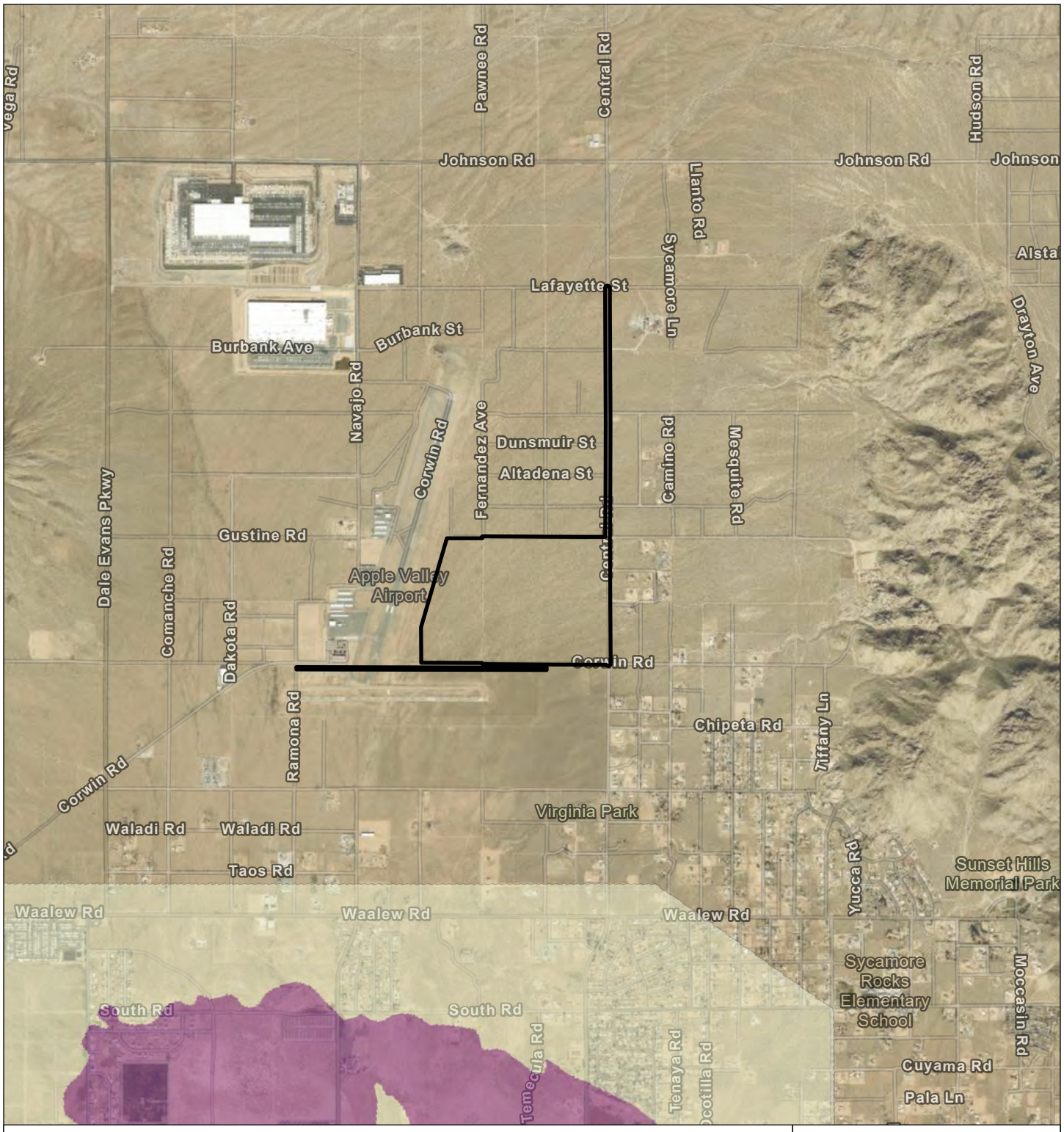


Figure 6. FEMA 100-Year Flood Zone

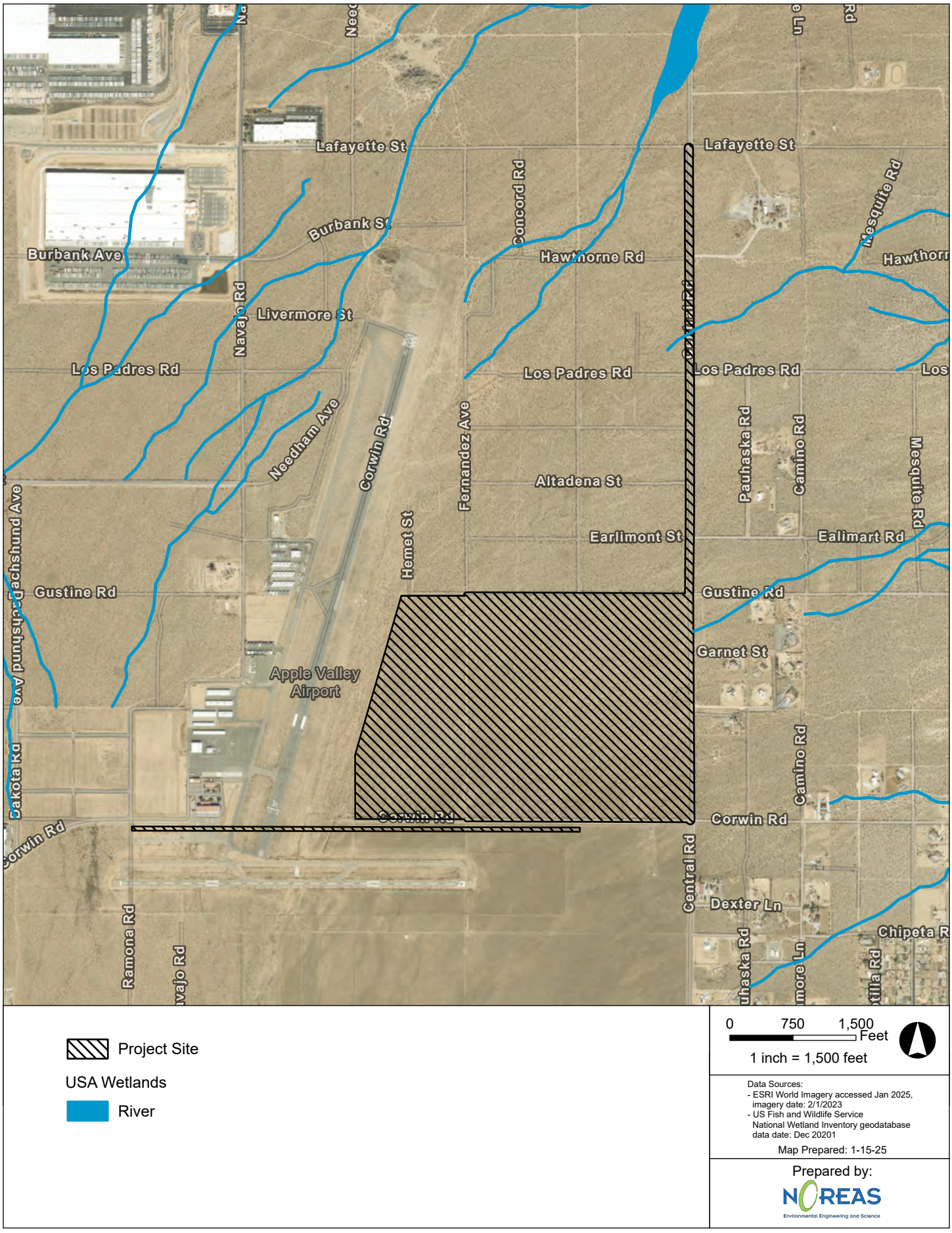
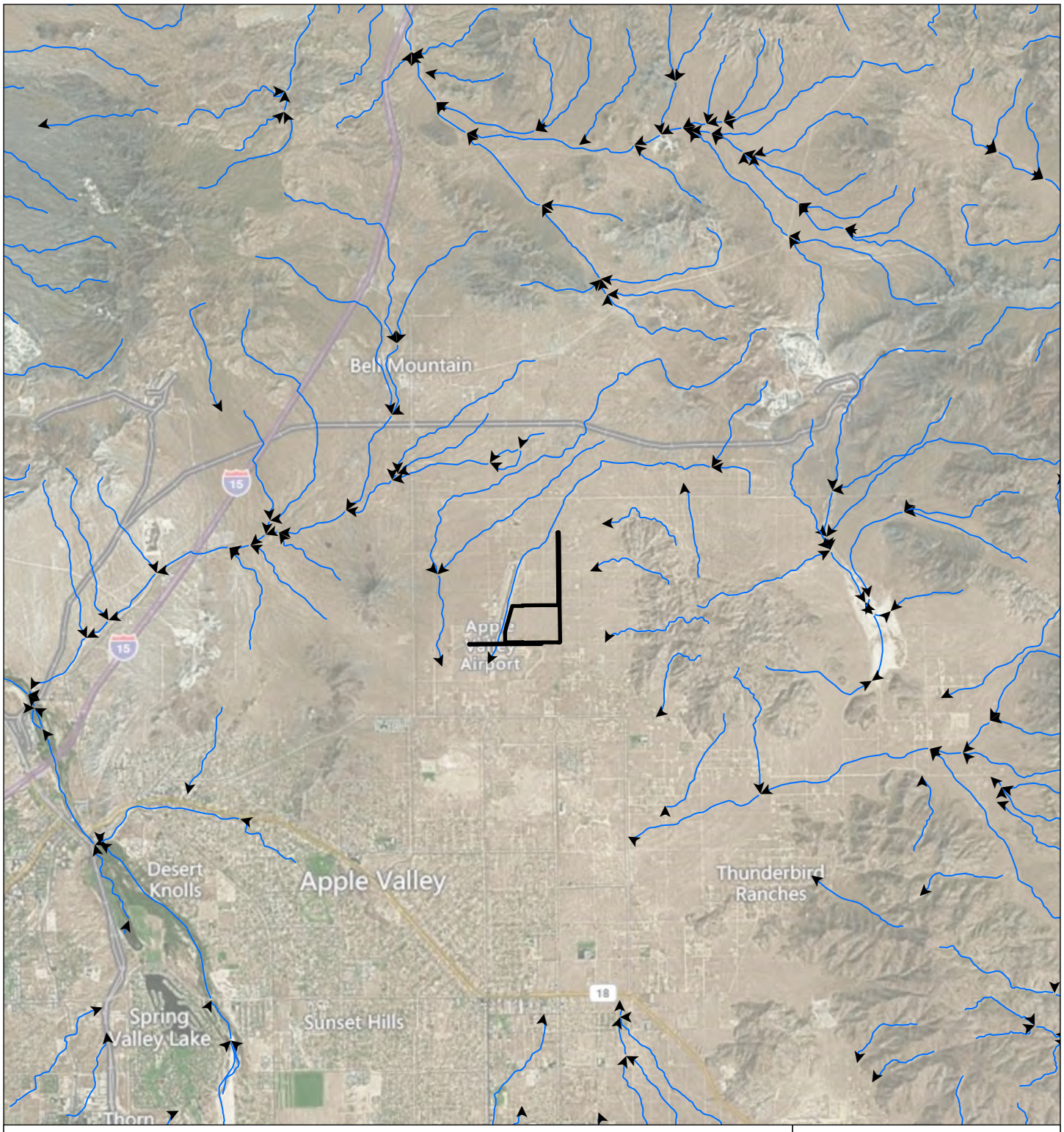


Figure 7. National Wetland Inventory



Project Site

Surface Water Flowlines and Flow Direction

0 1 2 Miles

1 inch = 2 miles

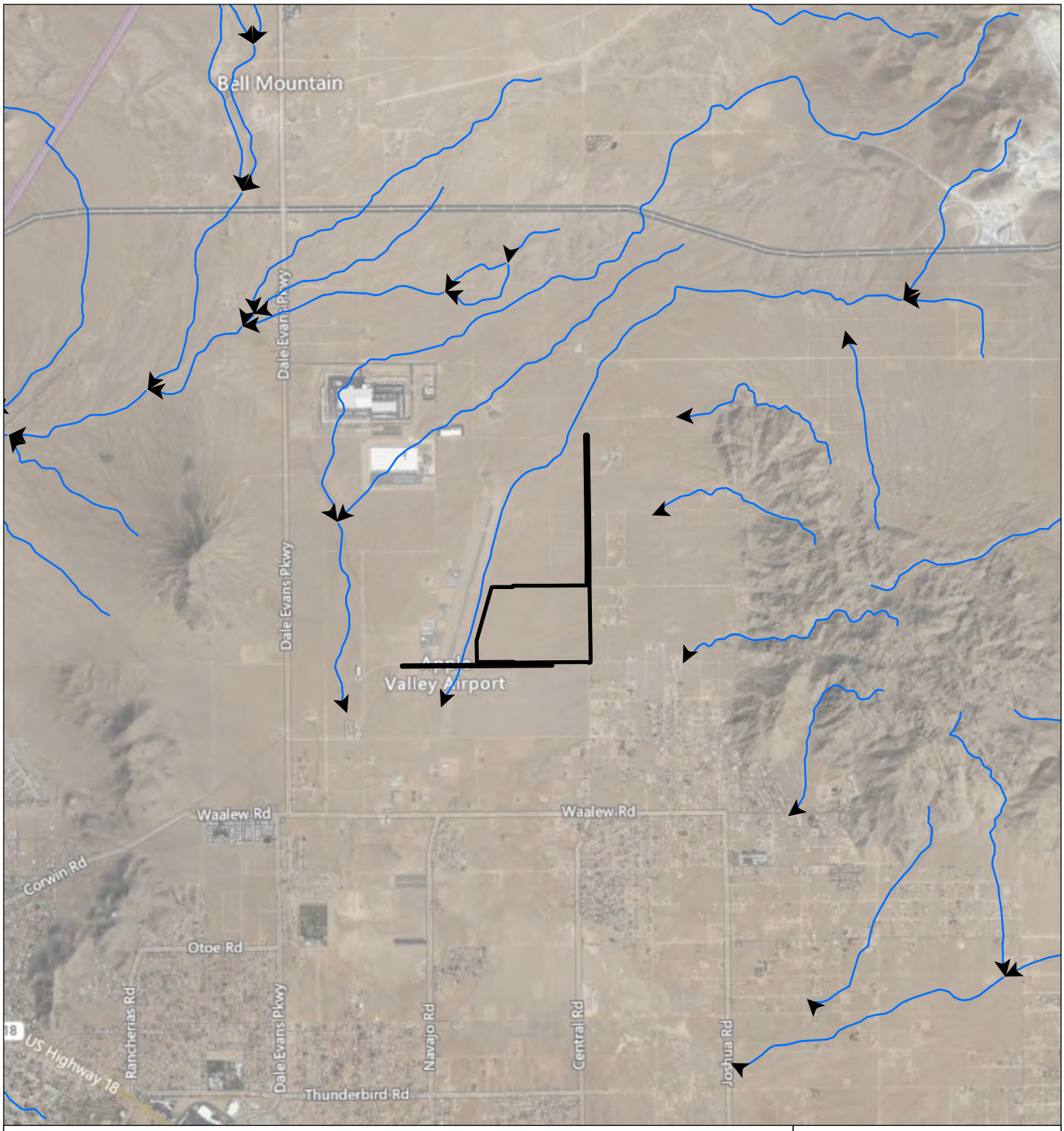
Data Sources:
- Bing Maps Hybrid accessed Jan 2025
- USGS National Hydrology Dataset Plus Version 2.1 accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 8. Surface Water Map (Regional Area)



Project Site

Surface Water Flowlines and Flow Direction

0 0.45 0.9 Miles

1 inch = 0.9 mile

Data Sources:
- Bing Maps Hybrid accessed Jan 2025
- USGS National Hydrology Dataset Plus Version 2.1 accessed Jan 2025

Map Prepared: 1-15-25

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 9. Surface Water Map (Local Area)

Appendix B
Photographic Log

	Photograph 1. Representative Image, Feature 1.
	Photograph 2. Representative Image, Feature 1.

	Photograph 3. Representative Image, Feature 2.
	Photograph 4. Representative Image, Feature 3.

	Photograph 5. Representative Image, Feature 4.
	Photograph 6. Representative Image, Feature 5.

	Photograph 7. Representative Image, Feature 6.
	Photograph 8. Representative Image, Feature 7.

	Photograph 9. Representative Image, Feature 8.
	Photograph 10. Representative Image, Feature 9.