Appendix "J"

Determination of Biologically Equivalent or Superior Preservation Report

DETERMINATION OF BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION REPORT

FOR THE

GREEN TREE PROJECT

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1.0 EXECUTIVE SUMMARY

This document provides an analysis in support of a Determination of Biologically Equivalent or Superior Preservation (DBESP) for the Green Tree Project (the Project) located in unincorporated Riverside County, California, in the context of the Multiple Species Habitat Conservation Plan (MSHCP) requirements for *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (MSHCP Volume I, Section 6.1.2)*.

This document has been prepared following the MSHCP DBESP Report Template created by the Regional Conservation Authority (RCA) to demonstrate that with the appropriate mitigation, the Project will represent a "biologically equivalent or superior" alternative to avoidance. This document summarizes the findings of general biological surveys and habitat assessments, and vegetation mapping, as it relates to riparian resources, and species with MSHCP survey requirements.

This DBESP incorporates the results of several previous biological surveys for the site contained within the following documents: Jurisdictional Delineation of the Green Tree Project Site, an Approximate 98.59-Acre Site Located in Unincorporated Riverside County, California (Glenn Lukos Associates Inc. [GLA] 2023), Biological Technical Report for Green Tree Project, Located in Riverside County, California (GLA, 2023).

The Project proposes a residential development that will result in impacts to MSHCP *Section 6.1.2* resources including riparian/riverine drainage features, and Goodding's willow riparian woodland. Direct effects to 0.65 acre of MSHCP riparian/riverine areas, including 0.38 acre of riparian vegetation, will be unavoidable under the implementation of the Project. The Project proponent shall compensate for these impacts at a 3:1 mitigation-to-impact ratio for MSHCP riparian/riverine areas that would also mitigate for loss of Goodding's willow woodland. Mitigation would be onsite, permittee responsible establishment, rehabilitation and enhancement of Goodding's willow riparian woodland and mulefat scrub.

2.0 INTRODUCTION

2.1 Project Area

The Project site comprises approximately 98.59 acres (95.19 acres onsite and 3.40 acres offsite) in unincorporated, Riverside County, California [Exhibit 1–Regional Map] and is located at latitude 33.866089 and longitude -117.429064 (approximate center coordinates) within Section 31 and 32 of Township 3 South, Range 5 West of the United States Geological Survey (USGS) 7.5-minute quadrangle topographic map Lake Mathews, California [Exhibit 2–Vicinity Map].

The Project site is bordered by the Citrus Heights residential development to the north, rural lands and El Sobrante Rd. to the south, agricultural lands to the east, and disturbed rural and residential lands to the west. The Project site includes four Assessor Parcel Numbers (APNs): 270-070-005, 270-070-006, 270-070-007, 270-160-005. Offsite improvement areas occur within APNs 270-160-020, 270-160-021, and 270-160-018 and within the right-of-way for El Sobrante Road.

Development of the Project will result in 84.78 acres of permanent grading impacts to accommodate the residential development and associated infrastructure.

Table 2-1. Summary of Project Site

Green Tree Project Area	Total (Acres)
Onsite	95.19
Offsite	3.40
Total	**98.59**

2.2 Project Description

The Project (TTM38605) will subdivide approximately 95.19 acres into 163 single-family residential lots [Appendix D – Site Plan]. The Project is located to the east of McAllister Road and Highland Grove 1, a single-family residential community currently under construction by Pulte Homes. The Project lies to the south of the Citrus Heights and Tramonte communities, to the North of El Sobrante and to the West of Cambria Court and Vista Del Lago Drive. The Project lies within the El Sobrante Area policy and has a proposed change of Zone from A-1-10 to R-1-10,000 allowing the lot sizes and standards to be consistent with the allowed density under the General Plan and policy area. The Project has been designed to avoid and protect the drainage courses along the northerly, easterly, westerly boundaries and a portion of the southerly boundary, impacting those drainage areas only where needed to provide access and utilities as described below. The Project has also been designed to protect the existing ridgeline to the south of the Project. Project amenities include a 2.14-acre park site and approximately 0.83 miles of public trails joining the Citrus Heights community to the Project park and to El Sobrante. The Project also includes three water quality and storm detention basins to treat site runoff before discharging to the pre-existing flow paths at the drainage courses along the Project perimeter.

The first of the two proposed crossings discussed above is at the offsite Street A which is the Project's main point of connection to El Sobrante. This road section is in accordance with Riverside County standard 104 Section A from the Project site to the offsite entry road that leads to El Sobrante. At the crossing, street A is 44-foot pavement from curb face to curb face and 66-foot right of way, in accordance with Riverside County Standard 104. This section allows for parking on both sides of the road and one lane of travel in each direction. The 60-foot section includes a public trail on the Westerly side. The crossing will include a headwall at the upstream end collecting the drainage flows from the East side of the drainage course into a 72-inch Reinforced Concrete Pipe Culvert approximately 198 linear feet and discharging the flows downstream through a headwall to a rip rap pad for velocity dissipation to the downstream end of the drainage course on the West side of the road. This culvert crossing has been sized for an anticipated approximately 632.91 CFS in the 100-year rational storm event.

The second of the two crossings occurs at the north side of the Project through an emergency ingress/egress access road to the existing Travertine Avenue with the Tramonte Community. This

crossing receives an anticipated approximately 310.44 CFS from the upstream east side of the culvert during the 100-year rational storm event through an inlet headwall, through the 54-inch reinforced concrete pipe culvert approximately 158 feet long and outlets to the downstream, west side of the culvert over an energy dissipating rip rap pad to the natural drainage course. The emergency access road includes 24-feet of AC Pavement for the emergency access road and a multipurpose access trail connecting the public trail system within Tramonte and Citrus Heights to the Project Park and to El Sobrante Road.

2.3 Existing Conditions

The Project site occurs near existing residential development to the north, east and west, and vacant land immediately to the south. The Project site is comprised of vacant and disturbed land that functioned as a citrus operation until the early 2000's. Evidence of site disturbance includes compacted soils, erosional areas, debris piles, and various dirt roads. Elevation ranges from approximately 1,425 feet above mean sea level (AMSL) to 1,235 feet AMSL.

Topography/Hydrology

A total of four drainage features extend across the Project site in a general north/northwest direction before continuing offsite towards the neighboring Citrus Heights development, and eventually the Gage Canal. The Gage Canal a man-made irrigation canal that is a distributary of the Santa Ana River. The drainages at the Project site range from ephemeral to intermittent within portions containing perennial seeps, and are described herein as Drainage A, Tributary A-1, Tributary A-2, and Drainage B.

Soils

As depicted on Exhibit 5 [Soils Map], the National Cooperative Soil Survey (NCSS) has identified the following soil types as occurring (currently or historically) within the Project site: Cajalco fine sandy loam, Buren fine sandy loam, Fallbrook sandy loam, and Las Posas loam, [Exhibit 6– Soils Map].

Vegetation/Land Use Types

The vegetation/land use types include four wing saltbush scrub, mulefat thickets, red brome grasslands, brittle bush scrub, eucalyptus woodland, Goodding's willow riparian woodland, pepper tree groves, and disturbed/developed. Table 2-2 summarize the vegetation/land use types and their corresponding acreages. Descriptions of each vegetation type follow the tables. A Vegetation Map is included as Exhibit 6.

Table 2-2. Summary of Vegetation/Land Use Types for the Project Site

Vegetation/Land Use Type	Onsite (Acres)	Offsite (Acres)	Project Site Total (Acres)
Atriplex canescens Shrubland Alliance (Four wing saltbush scrub)	5.16	0.04	5.20
Baccharis salicifolia Shrubland Alliance (Mulefat thickets)	0.13	0.11	0.24
Bromus rubens Herbaceous Semi-Natural Alliance (Red brome grasslands)	77.87	0.49	78.36
Encelia farinosa Shrubland Alliance (Brittle bush scrub)	8.27	0.00	8.27
Eucalyptus spp. Woodland Semi-Natural Alliance (Eucalyptus groves)	0.33	0.00	0.33
Salix gooddingii Woodland Alliance (Goodding's willow riparian woodland)	0.42	0.09	0.51
Schinus molle Woodland Semi-Natural Alliance (Pepper tree groves)	0.35	0.00	0.35
Disturbed/Developed	2.67	2.67	5.34
Total	**95.19**	**3.40**	**98.59**
*Total acreage may not equal the sum of vegetation types due to rounding error.			

Atriplex canescens Shrubland Alliance (Four wing saltbush scrub)

The Project site supports 5.20 acres of four wing saltbush scrub. Of the 5.20 acres, 5.16 acres occurs in the northern portion of the site with small patches at the southwest and southeast corners of the site, and 0.04 acre occurs just offsite to the north contiguous with the saltbush at the northern site boundary. This alliance is dominated by four wing saltbush with limited non-native understory that includes summer mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*) and non-native grasses including red brome (*Bromus madritensis rubens*).

Baccharis salicifolia Shrubland Alliance (Mulefat thickets)

The Project site supports approximately 0.24 acre, of which 0.11 acre is offsite. This alliance is dominated by mulefat (*Baccharis salicifolia*) and includes a limited amount of arroyo willow which comprises less than 20-percent of the relative vegetative cover. This alliance is also characterized by a relatively high prevalence of non-native species including tree tobacco (*Nicotiana glauca*), ornamental palms, and ruderal upland species.

***Bromus rubens* Herbaceous Semi-Natural Alliance (Red brome grasslands)**

The Project site supports 78.36 acres of red brome grassland of which 0.49 acre occurs offsite; a total that accounts for over 80-percent of the land cover within the Project site. In addition to red brome, this alliance supports ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), cultivated barley (*Hordeum vulgare*), summer mustard, London rocket, tree tobacco (*Nicotiana glauca*), and scattered individuals of four wing saltbush and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

***Encelia farinosa* Shrubland Alliance (Brittle bush scrub)**

The Project site supports 8.27 acres of brittle bush scrub dominated by brittle bush (*Encelia farinosa*), all of which occurs onsite. These areas are dominated by brittle bush (60-percent of the relative cover) with four wing saltbush accounting for the remaining shrub cover and an understory including summer mustard, red brome, ripgut brome, London rocket and other non-native grasses and herbs.

***Eucalyptus* spp. Woodland Semi-Natural Alliance (Eucalyptus groves)**

The Project site supports 0.33 acre of Eucalyptus Woodland along the southwest boundary of the site within Drainage B, all of which occurs onsite. This area comprises a small grove of eucalyptus woodlands consisting of blue gum (*Eucalyptus globulus*) mixed with non-native palms and a few black willows. This alliance occurs in the western portion of the site as a discrete grove.

***Salix gooddingii* Woodland Alliance (Goodding's willow riparian woodland)**

The Project site supports approximately 0.51 acre of black willow (*Salix gooddingii*) of which 0.09 acre is offsite. While the black willow is dominant in these areas with approximately 30-percent cover, this alliance also includes mulefat, tree tobacco, non-native palms, blue elderberry, and Peruvian pepper trees along the northern perimeter of the site in Drainage A.

***Schinus molle* Woodland Semi-Natural Alliance (Pepper tree groves)**

The Project site supports two patches of Peruvian pepper covering 0.35 acre, all of which is on site.

Disturbed/Developed

The Project site contains 5.34 acres (2.67 acres onsite, 2.67 acres offsite) of developed/disturbed lands that have been cleared, graded, paved, or otherwise altered by historical and ongoing (offsite) agricultural operations, use of offroad vehicles, or access road maintenance.

Special-Status Vegetation Communities

The CNDDB identifies the following nine special-status vegetation communities for the Lake Mathews, California and surrounding 7.5-minute quadrangle maps Steele Peak, Riverside East, Lake Elsinore, Corona North, Corona South, Riverside West, Santiago Peak, and Alberhill: canyon live oak ravine forest, Southern California arroyo chub/Santa Ana sucker stream, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern interior cypress forest, southern riparian forest, southern sycamore alder riparian woodland, southern willow scrub, and valley needlegrass grassland

The Project site contains the following special-status vegetation types: Goodding's black willow forest (S3).

3.0 RIPARIAN/RIVERINE MITIGATION (SECTION 6.1.2)

Section 6.1.2 of the MSHCP establishes procedures through which the protection of Riparian/Riverine Areas and Vernal Pools would occur. The purpose of these procedures is to ensure that the biological functions and values of the riparian/riverine and vernal pool habitat areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. *Section 6.1.2* of the MSHCP requires the evaluation of sites for "riparian" and/or "riverine" areas, "vernal pools", and suitable habitat for listed fairy shrimp and riparian birds (least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo).

3.1 Methodology/Results

3.1.1 Riparian/Riverine Areas

The MSHCP defines Riparian/Riverine Areas as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source, or areas with freshwater flow during all or a portion of the year."

Per the RCA's Consistency Analysis template, riverine features include any feature that is natural in origin as well as past natural features that have been heavily modified and/or redirected and can include features indirectly created through human manipulation of the landscape, including channelization of a historic riverine feature. If these features connect to nearby downstream resources that are either existing or described conservation lands, they would be considered riverine.

GLA biologists/regulatory specialists evaluated the Project site on February 18, April 19, and October 26, 2023, for MSHCP riparian/riverine areas. Prior to beginning the initial field assessment, a color aerial photograph, a topographic base map of the site, the applicable USGS topographic map, and a soils map were examined to determine the locations of potential riparian/riverine areas.

3.1.2 Vernal Pools

The MSHCP defines vernal pools as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season."

The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the way the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

A review of potential ponding features was conducted by GLA on March 6, March 9, and March 14, 2023. Specifically, GLA biologists evaluated the topography of the site, including whether the site contained astatic, closed depressional features/topography with the potential to become inundated; whether the site contained soils associated with vernal/seasonal pools; and whether the site supported plants that suggested areas of localized ponding. No vernal pools occur on the site. Sandy soils are mapped for the site, including as Buren Fine Sandy Loam, Cajalco Fine Sandy Loam, Fallbrook Sandy Loam, and Las Posas Loam, which do not exhibit the necessary ponding capacity and are not associated with vernal pools.

3.1.3 Fairy Shrimp

Pursuant to MSHCP *Section 6.1.2*, all project sites should be assessed for the potential to support one of three species of fairy shrimp, including the Riverside fairy shrimp (*Streptocephalus woottonii*), vernal pool fairy shrimp (*Branchinecta lynchi*), and Santa Rosa fairy shrimp (*Linderiella santarosae*). Additionally, assessments for fairy shrimp would also by default address the San Diego fairy shrimp (*Branchinecta sandiegonensis*), which is not a MSHCP Covered Species, but has a limited potential to occur in Western Riverside County. Assessments for fairy shrimp begin with the mapping of vernal pools, stock ponds, ephemeral pools, and other features with a potential to inundate seasonally and with a potential to support the above-referenced species.

As mentioned in Section 3.1.2 above, GLA conducted an assessment for areas that could support vernal pools and associated species. The site contains no vernal pools or other ponding features such as stock ponds capable of supporting listed fairy shrimp.

3.1.4 Riparian Birds

The MSHCP requires habitat assessments (and focused surveys within suitable habitat) for the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). If a project site is determined to have suitable habitat (nesting and/or foraging) for riparian bird species, then protocol-level focused surveys are required if direct or indirect impacts would occur to habitat that could provide for the riparian/riverine functions and values as it relates to these species.

The drainages associated with the site (both on-site and off-site) contain a limited amount of riparian habitat including 0.24 acre of mulefat thickets, 0.51 acre of Goodding's willow woodland. Portions of these small patches are of sufficient size and provide suitable vegetation structure to provide habitat for least Bell's vireo, particularly the western reach of Drainage B within the Project site. As a result, focused surveys were conducted. Due to the relative amount of disturbance, prevalence of non-native vegetation, lack of stratified riparian canopy, and small habitat size, riparian habitat associated with the drainages onsite were determined to be unsuitable for southwestern willow flycatcher and western yellow-billed cuckoo. Accordingly, no focused surveys were conducted for these species.

Least Bell's Vireo

GLA biologist(s) Jeff Ahrens, Jason Fitzgibbon and Joseph Vu conducted focused surveys for the least Bell's vireo (*Vireo bellii pusillus*) for all suitable habitat areas within the Project site. Suitable riparian habitat within the Project site consists of areas mapped as Goodding's willow riparian woodland and mulefat thickets, which are associated with Drainages A and B. The easternmost portion of Drainage B within the Project site represents the most suitable habitat for the species within the site and is characterized by a relatively dense canopy of Goodding's black willow, with a fairly stratified understory of riparian species such as mulefat and mugwort (*Artemisia douglasiana*). The western reaches of Drainage B, and most of Drainage A both support a much higher percent composition of non-native species such as Mexican fan palm (*Washingtonia robusta*), eucalyptus (*Eucalyptus* sp.), tree tobacco (*Nicotiana glauca*), among others, as well as a much less consistent riparian canopy and sparse or nonexistent riparian understory. Regardless, the entire reaches of Drainage A and B as they occur onsite were covered during the focused survey effort. Surveys were conducted in accordance with the 2001 USFWS survey guidelines, which stipulate that eight surveys should be conducted between April 10 and July 31, with a minimum of ten days separating each survey visit.

Focused surveys were conducted on the dates provided on Table 3-1. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 11:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 3-1 summarizes the vireo survey visits. The results of the vireo surveys are summarized below.

Table 3-1. Summary of Least Bell's Vireo Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover
04/21/2023	JV	0645/1100	57/70	0-2	None
05/02/2023	JV	0630/1045	50/64	4-6	100/40
05/15/2023	JA	0600/0900	55/64	1-3	20/20
05/25/2023	JA	0550/0915	55/61	2-4	100/80
06/06/2023	JV	0600/1020	54/66	0-4	100/50
06/26/2023	JA	0555/0930	54/68	1-4	50/30
07/07/2023	JF	0654/1045	59/85	4-7	None
08/19/2023	JF	0645/1045	68/83	2-4	None

JV = Joseph Vu, JA = Jeff Ahrens, JF = Jason Fitzgibbon

During the focused surveys, a single individual male was observed on multiple occasions utilizing the Goodding's willow riparian woodland associated with the easternmost portion of Drainage B. No least Bell's vireo were detected in the disturbed riparian habitats associated with Drainage A, nor the western reaches of Drainage B. Detection locations occurred both onsite and offsite and are depicted on Exhibit 8. Onsite occupied habitat comprises approximately 0.10 acre of Goodding's willow riparian woodland. No nesting behavior was observed during the surveys, however, the 0.10 acre of Goodding's willow woodland where the single male was detected supports suitable nesting habitat.

The Project will avoid all areas of occupied habitat. Proposed impacts to unoccupied portions of Drainage B occur approximately 436 feet (~132 meters) west of the single male LBV, and consist of mulefat thickets that exhibit a relatively high level of disturbance and high percent composition of non-native vegetation. Likewise, proposed impacts to unoccupied riparian habitat associated with Drainage A consist of disturbed Goodding's willow riparian woodland that also exhibits a high level of disturbance and high percent composition of non-native vegetation. Per *Section 6.1.2* of the MSHCP, the species-specific objectives for the LBV require that at least 90 percent of habitat with long-term conservation value be avoided (includes protection mechanism such as a deed restriction, conservation easement, etc.) for the LBV and that projects implement a 100-meter setback from areas of occupied habitat.

The Project will avoid all areas of occupied habitat and habitat with long-term conservation value for LBV (0.10 acre of occupied Goodding's willow riparian woodland). The Project currently implements a setback of approximately 40 meters from areas of occupied habitat within Drainage B. The occupied portion of Drainage B is deeply incised and is expected to provide a topographical buffer to any potential visual and/or noise-related disturbance associated with the construction of the Project, however, the potential for indirect impacts to LBV cannot be ruled out. With proposed mitigation measures and project design features, potential indirect impacts to LBV from the Project would be fully mitigated.

3.2 Impacts

3.2.1 Riparian/Riverine Areas

Description of Aquatic Resources

Pursuant to Volume I, Section 6.1.2 of the MSHCP, projects must consider alternatives providing for 100-percent avoidance of riparian/riverine areas. If avoidance is infeasible, then the unavoidable impacts must be mitigated and a DBESP is required. A total of four drainage features extend through the Project site in a general north/northwest direction before continuing offsite towards the neighboring Citrus Heights development, and eventually the Gage Canal, which is a man-made irrigation canal that is a distributary of the Santa Ana River. The drainages at the Project site range from ephemeral to intermittent within portions containing perennial seeps, and are described herein as Drainage A, Tributary A-1, Tributary A-2, and Drainage B. Table 3-2 below, which follows the discussion of each of the drainages, summarizes the MSHCP Riparian/Riverine areas for the Project site.

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly before continuing its path offsite. The upper and middle reaches of Drainage A are dry with portions of the channel incised down to bedrock. The upper reaches are disturbed with patches of tree tobacco (*Nicotiana glauca*, FAC), Mexican fan palm (*Washingtonia robusta*, FACW), desert brittlebush (*Encelia farinosa*, UPL), mulefat (*Baccharis salicifolia*, FAC), castor bean (*Ricinus communis*, FACU), Peruvian pepper (*Schinus molle*, UPL), four wing saltbush (*Atriplex canescens*, UPL), blue elderberry (*Sambucus nigra* ssp. *caerulea*, FACU), California buckwheat (*Eriogonum fasciculatum*, UPL), black mustard (*Brassica nigra*, UPL), and various bromes (*Bromus* ssp.).

A perennial seep occurs in the downstream reach where the drainage course becomes vertically incised to a depth that coincides with a semi-impermeable layer. This area receives relatively permanent hydrology from a buried pipe culvert that conveys flows from the neighboring development to the north. The mid and downstream reaches of Drainage A support areas of dense willow riparian canopy including black willow (*Salix goodingii*, FACW) and arroyo willow (*Salix lasiolepis*, FACW). Additional species associated with the drainage include stinging nettle (*Urtica dioica*, FAC), mulefat, yerba mansa (*Anemopsis californica*, OBL), Mexican fan palm, Canary palm (*Phoenix canariensis*, UPL), and perennial pepperweed (*Lepidium latifolium*, FAC). Portions of Drainage A exhibit evidence of hydric soils and support emergent hydrophytic plant species such as southern cattail (*Typha domingensis*, OBL), duckweed (*Lemna* sp., OBL), and water cress (*Nasturtium officinale*, OBL). Wetland data sheets are included in Appendix A [GLA Jurisdictional Delineation Report (2023)].

Tributaries A-1 and A-2 flow only in direct response to precipitation and were completely dry during the field assessment. Both features extend northerly/northwesterly and are tributary to Drainage A. Tributary A-1 meanders in a northerly direction along the western Project boundary, with approximately 254 linear feet of the low flow channel occurring within the Project site. Tributary A-1 is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert

brittlebush, castor bean, Russian thistle (*Salsola tragus*, FACU), four wing saltbush, California buckwheat, black mustard, and various bromes. Additional vegetation associated with the downstream extent includes Peruvian pepper, blue elderberry, and sparse occurrences of mulefat.

Tributary A-2 originates in the east central portion of the Project site and extends northwesterly for approximately 2,738 linear feet before its eventual confluence with Drainage A. The drainage is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle, four wing saltbush, California buckwheat, and black mustard. Sparse riparian vegetation associated with the drainage includes blue elderberry and sparse occurrences of mulefat. The majority of the channel banks are incised with erosional undercutting, rock and cobble, and sediment deposition within the low flow channel.

Drainage B conveys intermittent flows from the neighboring citrus operations in the southeast and was wet during the field assessments. This feature is interspersed by perennial seeps that occur where the drainage course becomes vertically incised to a depth where ground water is perched. Drainage B runs along the southwestern and southern boundaries of the Project site and extends in a general west/northwest direction for approximately 998 linear feet before continuing its path offsite towards its eventual confluence with Drainage A. Drainage B supports areas of vegetated riparian habitat adjacent to the channel banks. The downstream reaches of Drainage B are somewhat disturbed with stands of tree tobacco, California juniper, Mexican fan palm, desert brittlebush, castor bean, Peruvian pepper, four wing saltbush, California buckwheat, and black mustard. Riparian species associated with the drainage include mulefat, blue elderberry, black willow and arroyo willow. Additional species include stinging nettle, yerba mansa, Mexican fan palm, and Canary palm. Where perennial seeps occur, Drainage B supports emergent hydrophytic plant species such as southern cattail, duckweed, and water cress.

Table 3-2. Summary of MSHCP Riparian/Riverine Areas

Drainage Name	MSHCP Riverine (acres)	MSHCP Riparian (acres)	Total MSHCP Jurisdiction (acres)
Drainage A	0.22	0.46	0.68
Tributary A-1	0.02	0.00	0.02
Tributary A-2	0.33	0.16	0.49
Drainage B	0.04	0.67	0.71
Total	**0.61**	**1.29**	**1.89**

Impacts to MSHCP Riparian/Riverine Areas

The Project has been designed to avoid MSHCP Riparian/Riverine Areas to the maximum extent possible. Project construction will result in permanent and temporary impacts to on-site and off-site MSHCP Riparian/Riverine Areas as a result of two road crossings and from grading for residential construction. One road crossing will consist of a culverted crossing of Drainage A at the northernmost area of the site to connect to Travertine Drive. The second crossing is located at

the lower southwest corner of the site, which is necessary for a roadway connection to El Sobrante Road that will require a culverted crossing of Drainage B. Project grading for residential construction will result in permanent and temporary impacts to Drainage A-2.

Overall, the Project will result in combined on-site and off-site permanent impacts to 0.63 acre of MSHCP Riparian/Riverine areas of which 0.36 acre consists of riparian habitat. On-site and off-site temporary impacts total 0.02 acre of riparian habitat. Impacts to MSHCP Riparian/Riverine areas are summarized in Table 3-3.

Table 3-3. Impacts to MSHCP Riparian/Riverine Areas

Drainage	Permanent Impacts		Temporary Impacts	
	Riparian	Riverine	Riparian	Riverine
Onsite A	0.03	0.001	0.001	0.00
Offsite A	0.08	0.00	0.005	0.00
Onsite B	0.10	0.00	0.003	0.00
Offsite B	0.10	0.00	0.01	0.00
Onsite A-2	0.05	0.27	0.004	0.004
Total	**0.36**	**0.27**	**0.02**	**0.004**

The two crossings and project grading will impact MSHCP Riparian/Riverine areas vegetated with both riparian and upland vegetation types. The road crossing of Drainage A will permanently impact 0.11 acre and temporarily impact 0.006 acre of Goodding's willow riparian woodland. The road crossing of Drainage B will permanently impact 0.20 acre and temporarily impact 0.01 acre of mulefat thickets. Project grading will permanently impact 0.05 acre of MSHCP Riparian areas consisting of Goodding's willow riparian woodland. Project grading will also permanently impact 0.27 acre of Riverine areas vegetated with upland vegetation. Impacts by vegetation alliance is provided in Tables 3-4, 3-5, and 3-6 below.

Table 3-4. Drainage A Impacts by Vegetation Cover

Goodding's Willow Woodland				Non-Riparian Vegetation			
Permanent		Temporary		Permanent		Temporary	
Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
0.03	0.08	0.001	0.005	0.001	0.00	0.00	0.00

Table 3-5. Drainage B Impacts by Vegetation Cover

Mulefat Thickets			
Permanent		Temporary	
Onsite	Offsite	Onsite	Offsite
0.10	0.10	0.003	0.01

Table 3-6. Drainage A-2 Impacts by Vegetation Cover

Goodding's Willow Woodland				Non-Riparian Vegetation			
Permanent		Temporary		Permanent		Temporary	
Onsite	Offsite	Onsite	Offsite	Onsite	Offsite	Onsite	Offsite
0.05	0.00	0.004	0.00	0.27	0.00	0.004	0.00

Indirect Effects

As noted, the Project would avoid 0.91-acre of the 1.29 acres of onsite riparian habitat within the Project site. Portions of the 0.91-acre of avoided riparian habitat would be subject to indirect effects during and after construction of the Project due to proximity of portions of Drainage A running along the site boundary between the proposed development and Travertine Drive. Similarly, onsite segments of Drainage B will occur within proximity to Project.

3.2.2 Vernal Pools

The Project site does not contain any natural or artificial depressional wetlands that meet the MSHCP definition of a vernal pool.

3.3 Mitigation and Equivalency

3.3.1 Direct Effects

Effects on Conserved Habitats

The Project site is not located in the Criteria Area and is not described for conservation. The Project site is also not adjacent to the Criteria Area and drains to the northwest away from away from existing and described Conservation Areas. Overall, the Project will result in minimal impacts to conserved habitats, including the 0.38 acre of riparian vegetation (Goodding's willow woodland and mulefat thickets) associated with Drainages A, B, and A-2, including permanent and temporary, on-site, and off-stie impacts. A substantial portion of the remainder of the Project site consists of former agricultural orchards which have been removed and now supporting ruderal vegetation, and limited areas of brittle bush scrub, four wing saltbush scrub, a few eucalyptus and Peruvian pepper trees, and disturbed/developed areas. The majority of the Project site has been heavily disturbed by past agricultural uses.

Effects on Covered Species

The vegetated portions of the Project overall provide general opportunities for birds, reptiles, and small mammals; however, the opportunities are limited for *Section 6.1.2* species. The willow riparian and mulefat areas associated with Drainages A, B, and A-2 are part of more extensive areas of riparian habitat that is adjacent to the onsite habitats and provide habitat for some bird

species. The western reach of Drainage B is suitable to support *Section 6.1.2* species, specifically least Bell's vireo, but is not suitable for southwestern willow flycatcher and western yellow-billed cuckoo. The habitat lacks the appropriate size and vegetation structure for these two species, including lack of suitable hydrology for the flycatcher and cuckoo. Other riparian obligate birds and woodland or forest bird species such as woodpeckers, pacific-slope flycatcher (*Empidonax difficilis*), and western wood-pewee (*Contopus sordidulus*) are expected to occur as residents and in transit during periods of migration/dispersal.

Habitat with long-term conservation value for least Bell's vireo and other riparian avifauna will be preserved on the Project site. Of the 1.89 acre of Riparian/Riverine areas (of which 0.75 acres consist of Goodding's willow woodland and mulefat thickets) a total of 0.91 acre would be avoided (including the 0.10 acre of Goodding's willow woodland occupied by least Bell's vireo) and preserved and subject to enhancement and rehabilitation with an overall increase in function as discussed in the mitigation section below.

Effects on Linkages and Functions of the MSHCP Conservation Area that Support Section 6.1.2 Resources

The Project site is not associated with an existing or proposed Linkage and as noted above, the Project site is not described for inclusion in the MSHCP Conservation Area. As such, although the Project site contains *Section 6.1.2* resources, the impacts to those resources do not relate to Linkage or MSHCP Conservation Area functions. The Project site does contain MSHCP resources providing habitat, including riparian resources that might support additional species that receive benefits from the MSHCP *Section 6.1.2* policies.

Functional Analysis

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly before continuing its path offsite. The upper and middle reaches of Drainage A are dry with portions of the channel incised to bedrock. The upper reaches are disturbed, supporting a substantial component of non-native invasive species including patches of tree tobacco, Mexican fan palm, Canary palm, castor bean, Peruvian pepper, black mustard, and various brome grasses (*Bromus* ssp.). Natives include four wing saltbush, blue elderberry, and California buckwheat,

An area with regular discharge occurs in the downstream reach where the drainage course becomes vertically incised to a depth that coincides with a semi-impermeable layer. This area receives relatively permanent hydrology from a buried culvert that conveys flows from the neighboring development to the north. The mid and downstream reaches of Drainage A support patches of willow riparian habitat including Goodding's black willow and arroyo willow. Additional species associated with this segment of the drainage include stinging nettle, mulefat, yerba mansa, with non-natives including Mexican fan palm, Canary palm, and perennial pepperweed. Portions of Drainage A exhibit evidence of hydric soils and support emergent hydrophytic plant species such as southern cattail, duckweed, and water cress.

Tributaries A-1 and A-2 flow only in direct response to precipitation and were completely dry during the field assessment. Both features extend northerly/northwesterly and are tributary to Drainage A. Tributary A-1 meanders in a northerly direction along the western Project boundary, with approximately 254 linear feet of the low flow channel occurring within the Project site. Tributary A-1 is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle, four wing saltbush, California buckwheat, black mustard, and various bromes. Additional vegetation associated with the downstream extent includes Peruvian pepper, blue elderberry, and sparse occurrences of mulefat.

Tributary A-2 originates in the east central portion of the Project site and extends northwesterly for approximately 2,738 linear feet before its eventual confluence with Drainage A. The drainage is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle, four wing saltbush, California buckwheat, and black mustard. Sparse riparian vegetation associated with the drainage includes blue elderberry and sparse occurrences of mulefat. The majority of the channel banks are incised with erosional undercutting, rock and cobble, and sediment deposition within the low flow channel.

Drainage B conveys intermittent flows from the neighboring citrus operations in the southeast and was wet during the field assessments. This feature is interspersed by perennial seeps that occur where the drainage course becomes vertically incised to a depth where ground water is perched. Drainage B runs along the southwestern and southern boundaries of the Project site and extends in a general west/northwest direction for approximately 998 linear feet before continuing its path offsite towards its eventual confluence with Drainage A. Drainage B supports areas of vegetated riparian habitat adjacent to the channel banks. The downstream reaches of Drainage B are somewhat disturbed with stands of tree tobacco, California juniper, Mexican fan palm, desert brittlebush, castor bean, Peruvian pepper, four wing saltbush, California buckwheat, and black mustard. Riparian species associated with the drainage include mulefat, black willow and arroyo willow. Additional species include stinging nettle, yerba mansa, Mexican fan palm, and Canary palm. Where perennial seeps occur, Drainage B supports emergent hydrophytic plant species such as southern cattail, duckweed, and water cress.

Overall, the drainages have been subject to various activities including agriculture which have resulted in areas with deeply eroded channels, which limits natural buffers with native habitat and floodplain connections.

Mitigation for Riparian/Riverine Resources

Permanent impacts to 0.63 acre of MSHCP Riparian/Riverine areas and temporary impacts to 0.02 acre (totaling 0.65 acre of impacts) would be mitigated onsite at a ratio of 3:1 (1.95 acres) through a combination of enhancement, rehabilitation, and establishment of riparian habitat including Goodding's willow riparian woodland and mulefat scrub. Mitigation will consist of establishment, enhancement, and rehabilitation of onsite drainages, specifically associated with Drainages A, B, and A-2 (proposed mitigation locations are depicted in Exhibit 9).

Establishment, Rehabilitation and Enhancement of 1.95 acres willow riparian woodland and mulefat thickets in conjunction with establishment blue elderberry woodland would replace the lost functions associated with impacts to 0.38 acre of Goodding's willow woodland and mulefat thickets and additional 0.27 acre of MSHCP Riverine drainages. As noted, approximately 0.10 acre of avoided Goodding's willow woodland habitat on the site supports least Bell's vireo, a *Section 6.1.2* species. The proposed rehabilitation of unoccupied areas of disturbed willow woodland and mulefat thickets would provide a biological lift to the onsite riparian habitat. This increased density of riparian vegetation adjacent to occupied habitat would allow for additional least Bell's vireo territories to be established and would support a suite of other riparian associated avifauna, as well as numerous raptor species.

The proposed mitigation would be considered "in-kind" as the proposed mitigation would establish, rehabilitate and enhance the existing willow riparian woodland and mulefat thickets that occur on the site. Additionally, the biological functions of the candidate mitigation area for *Section 6.1.2* species would result in conditions superior to those functions associated with the drainage features as they currently exist on the Project site. As such, the rehabilitation of 1.95 acres (3:1 ratio) of willow riparian woodland and mulefat thickets would overall be equivalent or superior to avoidance of the riparian/riverine features at the Project site.

As the proposed mitigation would be developer-responsible, the mitigation proposal would require CDFW review of the proposed mitigation site and approval of a Habitat Mitigation and Monitoring Plan (HMMP). Following successful completion of riparian rehabilitation, the mitigation area would be conveyed to a third-party entity for long-term management, with a non-wasting endowment for post-restoration habitat maintenance funded by the Project proponent.

Mitigation for Indirect Effects

In order to reduce the potential for indirect effects to least Bell's vireo within the occupied/avoided portion of Drainage B, the Project will implement the following mitigation measure during construction conducted during the LBV breeding season (March 15 – August 31):

- Prior to conducting any grading or noise-generating Project-related disturbance that may exceed 60 dBA, a temporary noise-attenuating wall will be erected along the portion of the perimeter of the temporary impact boundary that occurs within 100 meters of the occupied LBV habitat within Drainage B (depicted on Exhibit 8).

In order to reduce the potential for indirect effects to least Bell's vireo within the occupied/avoided portion of Drainage B following construction of the Project, the Project will implement the following mitigation measure:

- As a Project design feature, the completed Project will include a permanent noise attenuating solid block wall, at least six feet in height, along the perimeter of the permanent impact boundary that occurs within 70 meters of the occupied LBV habitat within Drainage B (depicted on Exhibit 8 and Appendix C).

In order to reduce the indirect effects to downstream areas of avoided riparian habitat during construction, the Project shall comply with the following Standard Best Management Practices (BMPs) of the MSHCP (Volume I, Appendix C):

- Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.

- The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the Biologist prior to initiation of work.

- Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.

- When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off-site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.

- Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, United States Fish and Wildlife Service (USFWS), CDFW, and RWQCB, and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

- Erodible fill material shall not be deposited into watercourses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.

- The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.

- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed Project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the Project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the

completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

- The Project applicant shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

As a means to address the potential for impacts to the sensitive vegetation community and sensitive species within avoided riparian areas after the development of the Project, the Project will implement measures consistent with the MSHCP guidelines to address the following: Drainage, Lighting, Invasives, and Barriers.

- The Project shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to Drainages A and B is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into Drainages A and B. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within Drainages A and B. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

  Under existing conditions, the Project site receives limited dry-weather flows. However, following Project construction, no loss of downstream hydrological input is expected, and urban dry-weather flows may ultimately increase.

- Night lighting shall be directed away from Drainages A and B to protect species within the avoided riparian areas from direct night lighting. If night lighting is required during construction, shielding shall be incorporated to ensure ambient lighting in the riparian areas is not increased.

- The Project shall avoid the use of invasive plant species in landscaping, including invasive, non-native plant species listed in Volume I, Table 6-2 of the MSHCP.

- The Project shall incorporate barriers, where appropriate to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the avoided riparian areas. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

4.0 NARROW ENDEMIC PLANT SPECIES MITIGATION (SECTION 6.3.2)

The Project site is not located within the Narrow Endemic Plant Species Survey Area (NEPSSA). As such, there are no MSHCP requirements pertaining to NEPSSA species applicable to the Project, including focused plant surveys and avoidance/mitigation.

5.0 ADDITIONAL SURVEY NEEDS (SECTION 6.3.2)

5.1 Criteria Area Species Survey Area – Plants

The Project site is not located within the Criteria Area Plant Species Survey Area (CAPSSA). As such, there are no MSHCP requirements pertaining to CAPSSA species applicable to the Project, including focused plant surveys and avoidance/mitigation.

5.2 Burrowing Owl

5.2.1 Methods

APNs 270-070-005, 270-070-006, 270-070-007, 270-160-005 as well as offsite improvement areas within APNs 270-160-020, 270-160-021, and 270-160-018 and within the right-of-way for El Sobrante Road are both located within the MSHCP survey area for burrowing owl [Exhibit 4 – MSHCP Overlay]. Focused burrowing owl surveys were conducted for the Project site in 2023 by GLA in accordance with the MSHCP Burrowing Owl Survey Instructions (RCA 2006).

The survey instructions are divided into three components, including Step I (habitat assessment), Step II-A (focused burrow survey), and Step II-B (focused burrowing owl survey). Within areas of suitable habitat, the MSHCP first requires a focused burrow survey (Step II-A) to map all potentially suitable burrows. For Step II-B, the Survey Instructions stipulate that four focused survey visits be conducted on separate dates between March 1 and August 31. The surveys must be conducted within a timeframe from one hour prior to sunrise to two hours after sunrise.

GLA biologist(s) Jeff Ahrens, Jason Fitzgibbon, David Smith, and Joseph Vu conducted focused surveys for the burrowing owl for all suitable habitat areas within the Project site. Surveys were conducted in accordance with survey guidelines described in the 2006 MSHCP Burrowing Owl Survey Instructions. The Project site was divided into two survey polygons, to ensure that all areas of suitable habitat could be adequately covered during the time allotted per the Burrowing Owl Survey Instructions. The guidelines stipulate that four focused survey visits be conducted on separate dates between March 1 and August 31 for each survey polygon. Within areas of suitable habitat, the MSHCP first requires a focused burrow survey to map all potentially suitable burrows. The focused burrow survey was conducted on March 3 and 9, 2023 for Survey Polygon A and Survey Polygon B, respectively. Focused burrowing owl surveys were conducted on the dates noted in Table 5-1 below. The burrowing owl survey visits need to be conducted from one hour prior to sunrise to two hours after sunrise or two hours before sunset to one hour after sunset.

Both the burrow and owl surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign and not during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Additionally, all work was performed more than 5 days after a rain event. Refer to Table 5-1 for survey condition details.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Transects were spaced between 22 feet and 65 feet apart, adjusting for vegetation height and density, to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 320 feet along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. Table 5-1 summarizes the burrowing owl survey visits.

Table 5-1. Summary of Burrowing Owl Surveys

Survey Date	Biologist(s)	Survey Period Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
Survey Polygon A					
03/09/2023	JA	0550/0900	42/58	2/5	20/20
04/05/2023	DS	0630/0830	57/63	2/3	None
04/24/2023	JA	1620/1930	69/64	0/1	None
06/01/2023	JA	1730/1930	65/63	0/2	100/90
Survey Polygon B					
03/23/2023	JA	0610/0900	44/45	4/5	100/100
04/05/2023	DS	0630/0830	57/63	0/2	None
05/12/2023	JV	0550/0745	50/57	5/7	100/10
05/26/2023	JF	1810/2020	68/62	2/4	50/25

JA = Jeff Ahrens, JF= Jason Fitzgibbon, DS = David Smith; JV, Joseph Vu

5.2.2 Results/Impacts

GLA biologists did not observe burrowing owls or evidence of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) during the focused burrowing owl surveys in March-June 2023. Therefore, the species was confirmed absent. In order to be consistent with the Specific Plan EIR and MSHCP burrowing owl survey guidelines (*Additional Survey Needs and Procedures, Section 6.3.2*), pre-construction surveys will occur within 30-days prior to ground disturbance within all areas of the Project site suitable for burrowing owl.

5.2.3 Mitigation

Pursuant to MSHCP requirements for the burrowing owl (objective 6 of the MSHCP objectives for the burrowing owl), a qualified biologist will perform a pre-construction burrowing owl survey for the Project site prior to initial ground-disturbing activities. The following measure will apply to the pre-construction survey:

- A 30-day pre-construction survey for burrowing owls is required prior to initial ground disturbing activities (e.g., vegetation clearing, clearing and grubbing, grading, tree removal, site watering, equipment staging) to ensure that no owl have colonized the 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 Project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure that burrowing owl have not colonized the site since it was last disturbed. If burrowing owl is found, the same coordination described above will be necessary.

5.3 Mammals

The Project site is not located within a MSHCP Mammal Survey Area. As such, there are no MSHCP requirements pertaining to small mammals applicable to the Project, including focused survey and avoidance/mitigation.

5.4 Amphibians

The Project site is not located within a MSHCP Amphibian Survey Area. As such, there are no MSHCP requirements pertaining to amphibians applicable to the Project, including focused survey and avoidance/mitigation.

6.0 DELHI SANDS FLOWER LOVING FLY

The Project site is not located within the Delhi Sands flower-loving fly survey area nor an area that is mapped as having Delhi soils [Exhibit 4 – Soils Map], and therefore habitat assessments/focused surveys are not required for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*).

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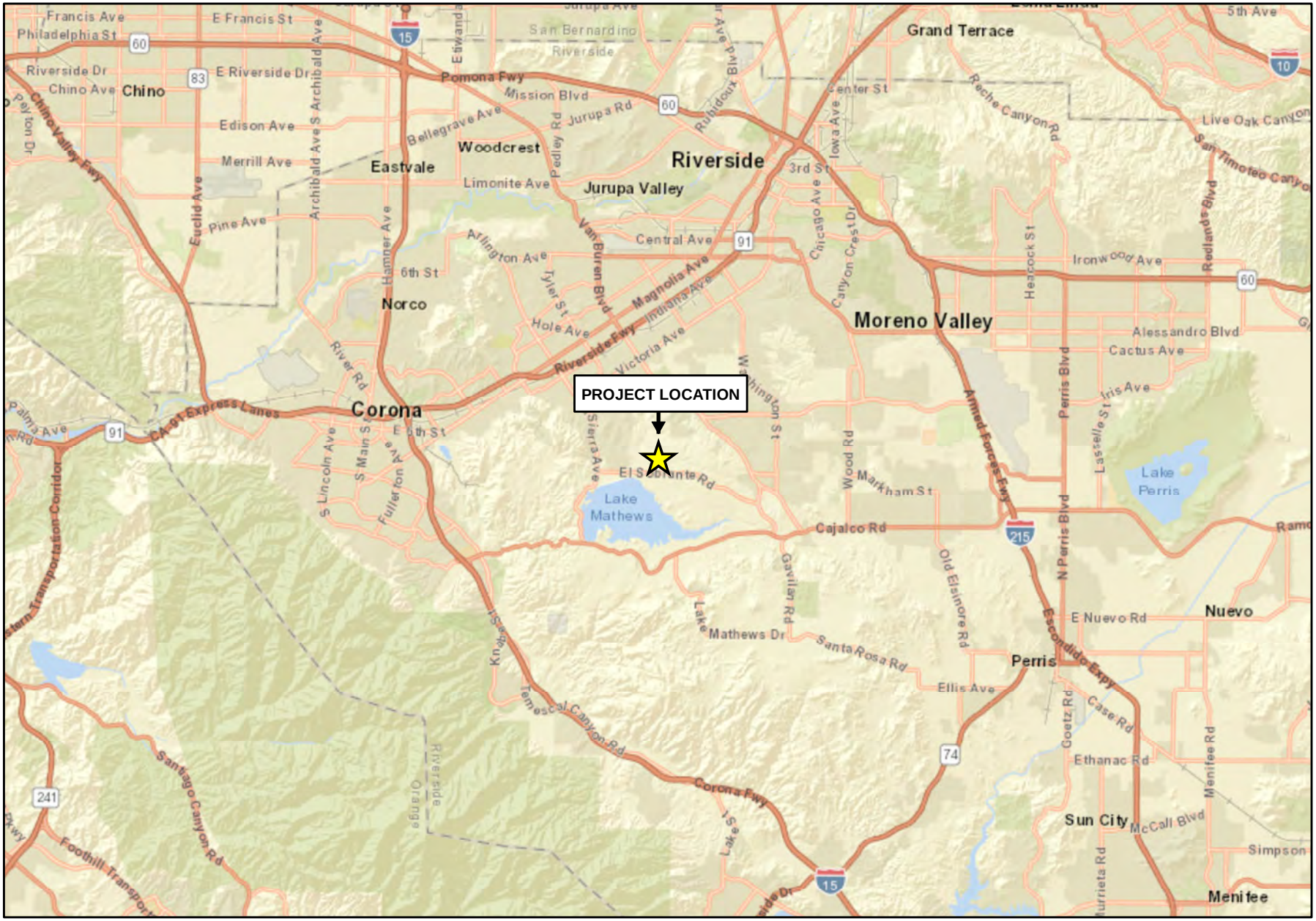


Source: ESRI World Street Map

N

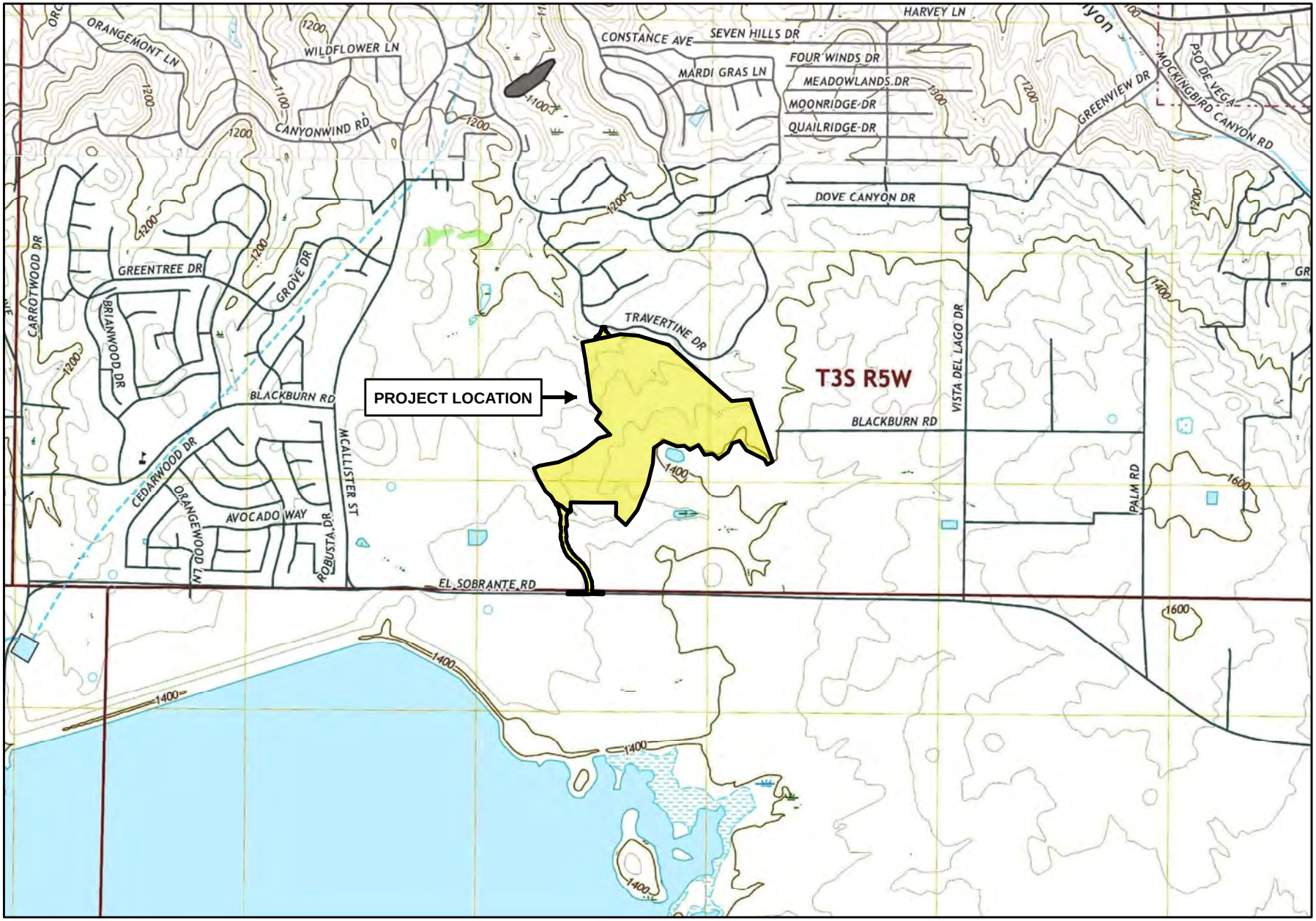
0 2 4 8 Miles

GREEN TREE PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Lake Mathews, CA quadrangle

N

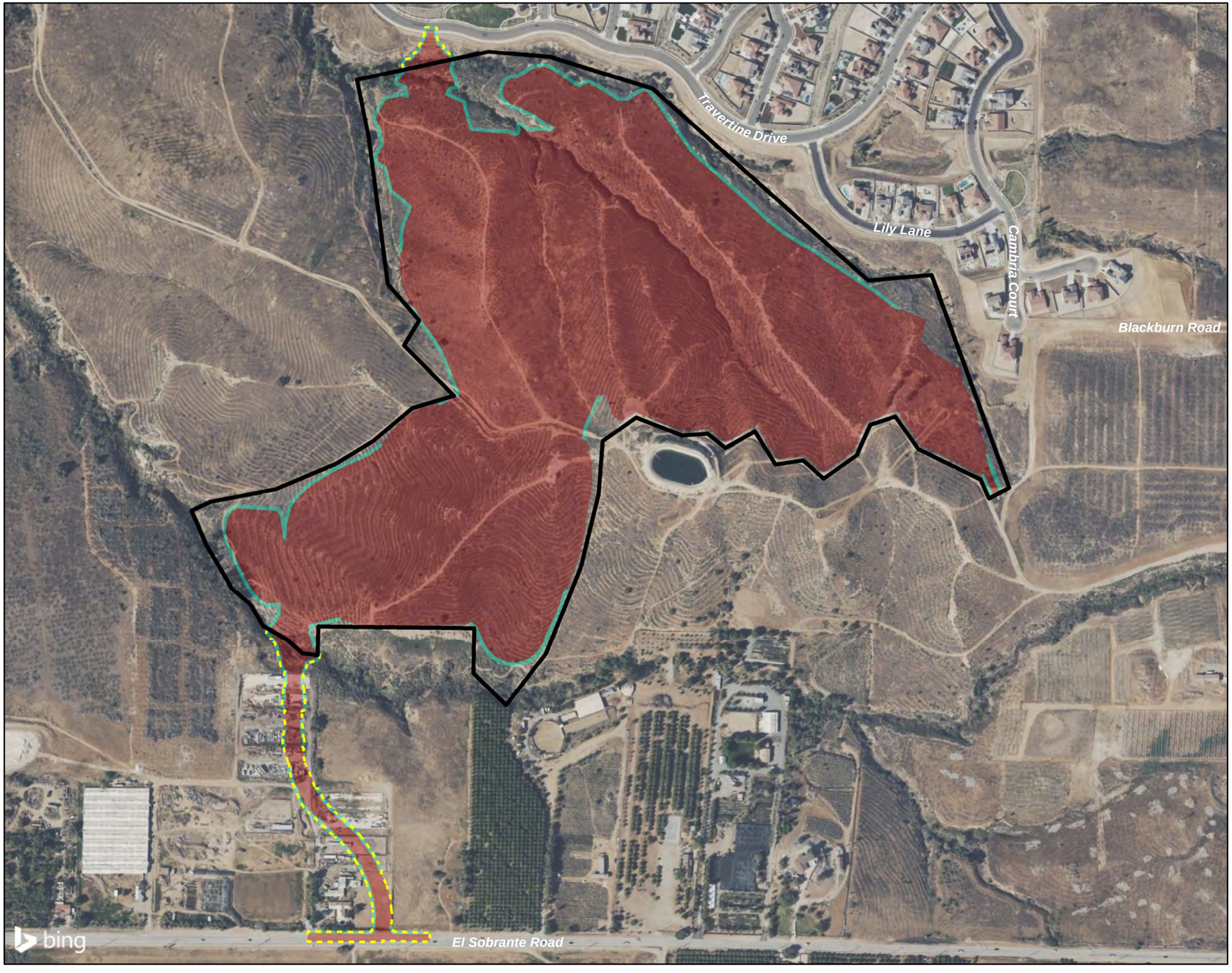
0 1,000 2,000 4,000 Feet

GREEN TREE PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

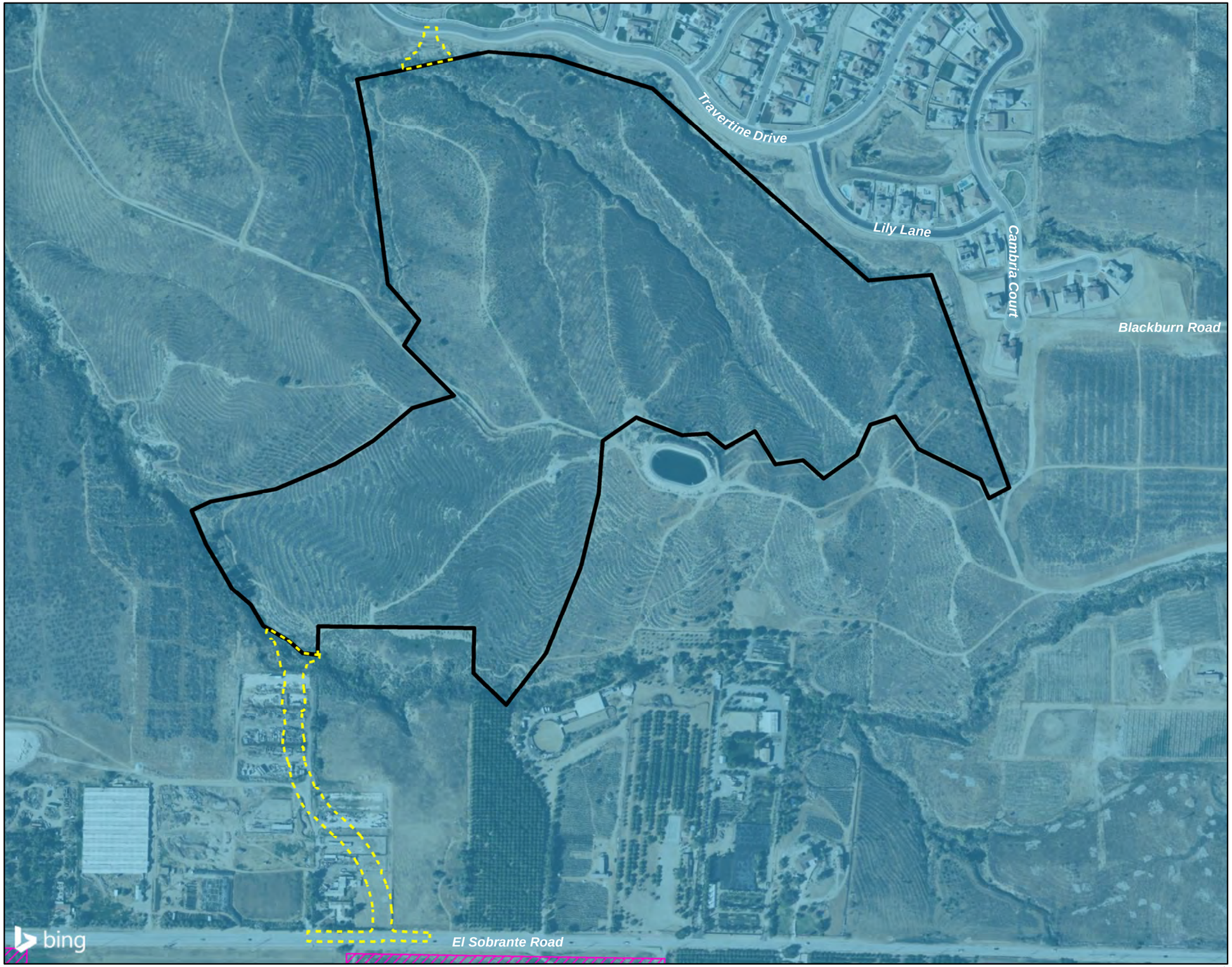
GREEN TREE PROJECT

Aerial Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\1100 AFTER THE REST\1106-02GNTR\GIS\1106-02_SitePlan.mxd



Project - Onsite

Project - Offsite

Burrowing Owl Survey Area

Public/Quasi-Public Lands

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

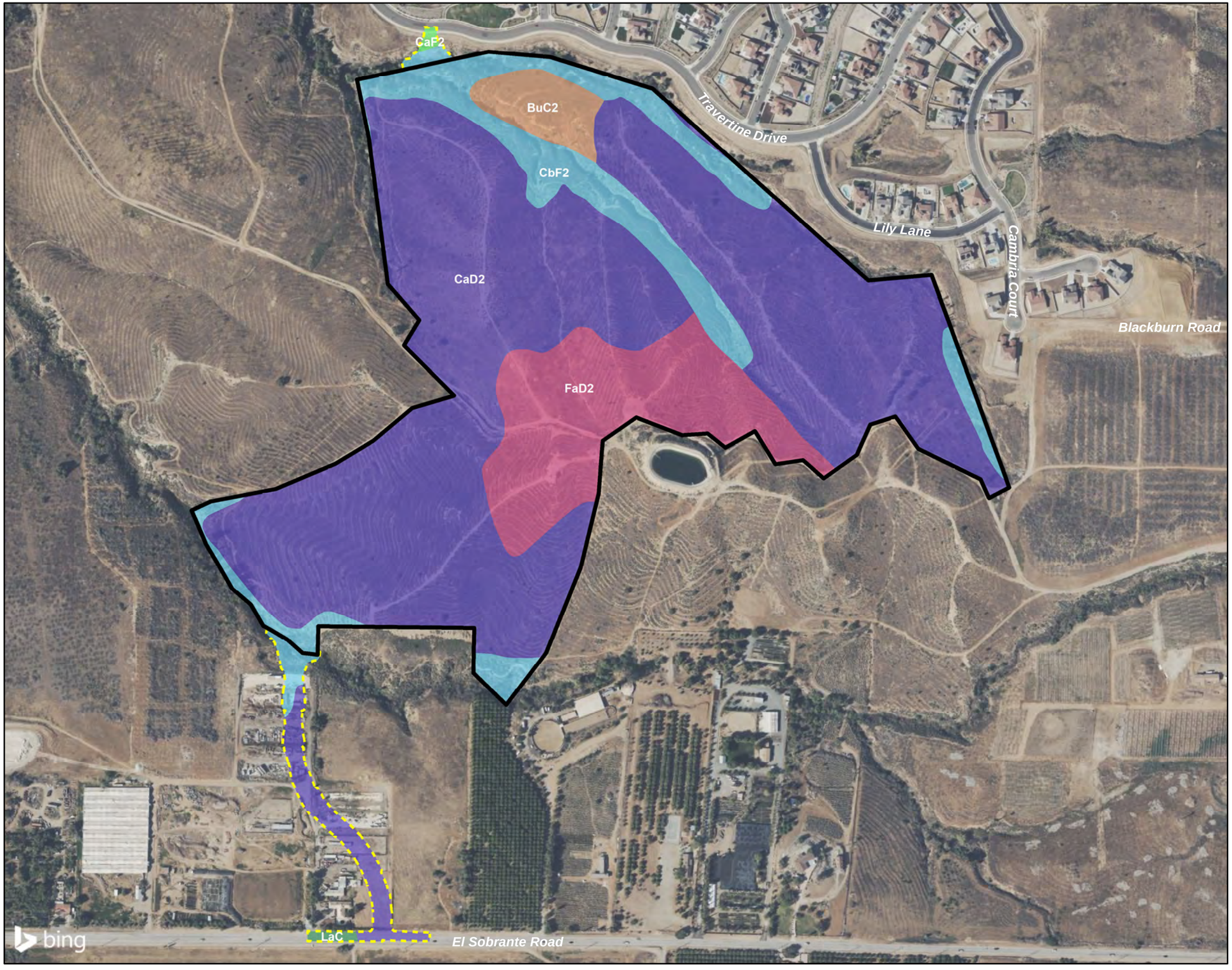
GREEN TREE PROJECT

MSHCP Overlay Map

GLENN LUKOS ASSOCIATES

Exhibit 4

X:\1100 AFTER THE REST\1106-02GNTR\GIS\MSHCP_GIS\1106-02_MSHCPOverlay.mxd



- Project - Onsite
- Project - Offsite
- BuC2 — Buren fine sandy loam, 2 to 8 percent slopes, eroded
- CaD2 — Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 — Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbF2 — Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- FaD2 — Fallbrook sandy loam, 8 to 15 percent slopes, eroded
- LaC — Las Posas loam, 2 to 8 percent slopes

N

0 200 400 800
Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 6, 2023

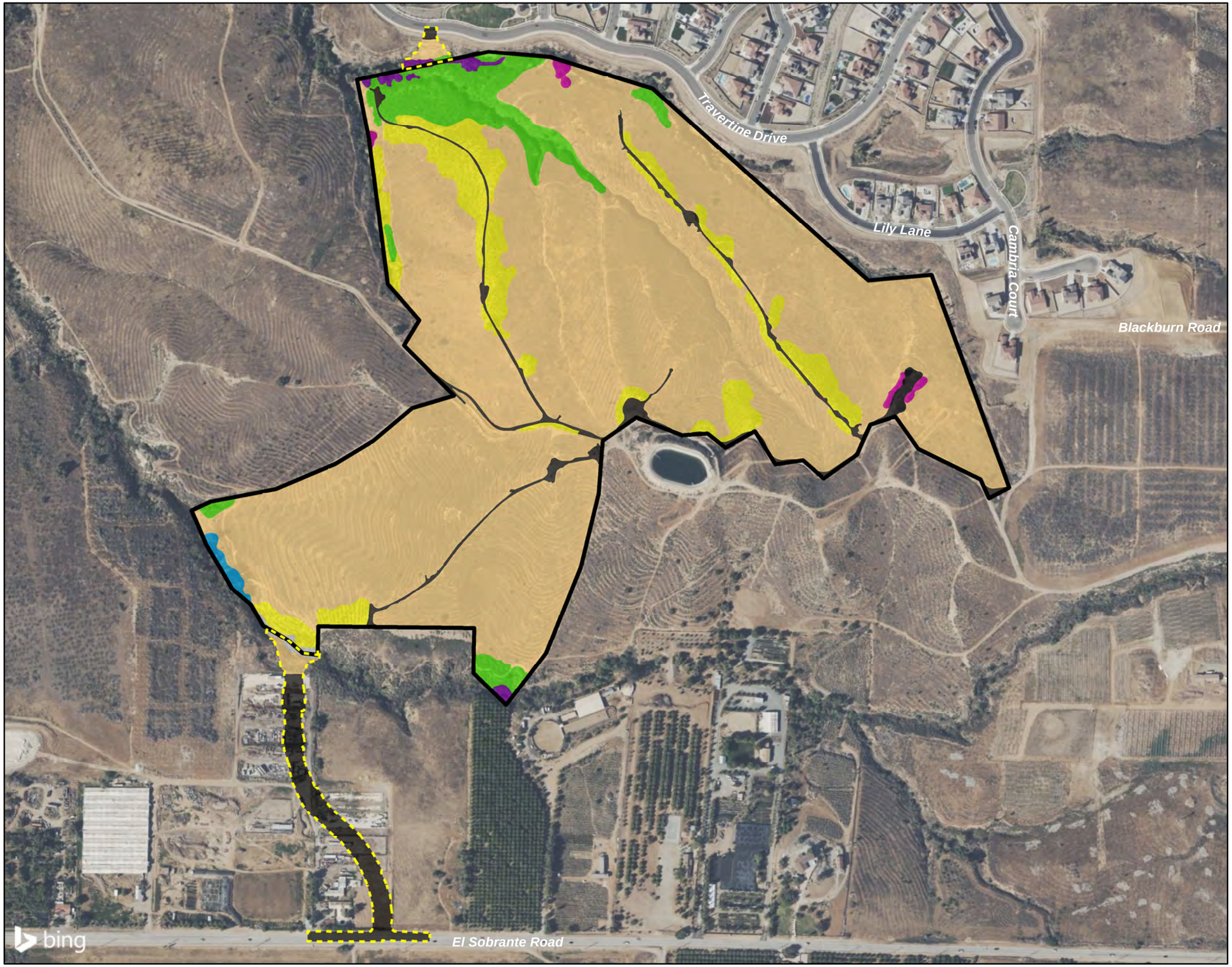
GREEN TREE PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

X:\1100 AFTER THE REST\1106-02GNTR\GIS\SoilsGIS\1106-02_Soils.mxd



Project - Onsite

Project - Offsite

Mulefat Riparian Scrub

Baccharis salicifolia Shrubland Alliance
(Mulefat thickets)

Riversidean Sage Scrub

Atriplex canescens Shrubland Alliance
(Four wing saltbush scrub)

Encelia farinosa Shrubland Alliance
(Brittle bush scrub)

Willow Riparian Woodland

Salix gooddingii Woodland Alliance
(Goodding's willow riparian woodland)

Non-Native Grassland

Bromus rubens Herbaceous
Semi-Natural Alliance (Red brome grasslands)

Ornamental

Eucalyptus spp. Woodland
Semi-Natural Alliance (Eucalyptus groves)

Schinus molle Woodland
Semi-Natural Alliance (Pepper tree groves)

Disturbed/Developed Land

Disturbed/Developed

0 200 400 800
Feet

1 inch = 400 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

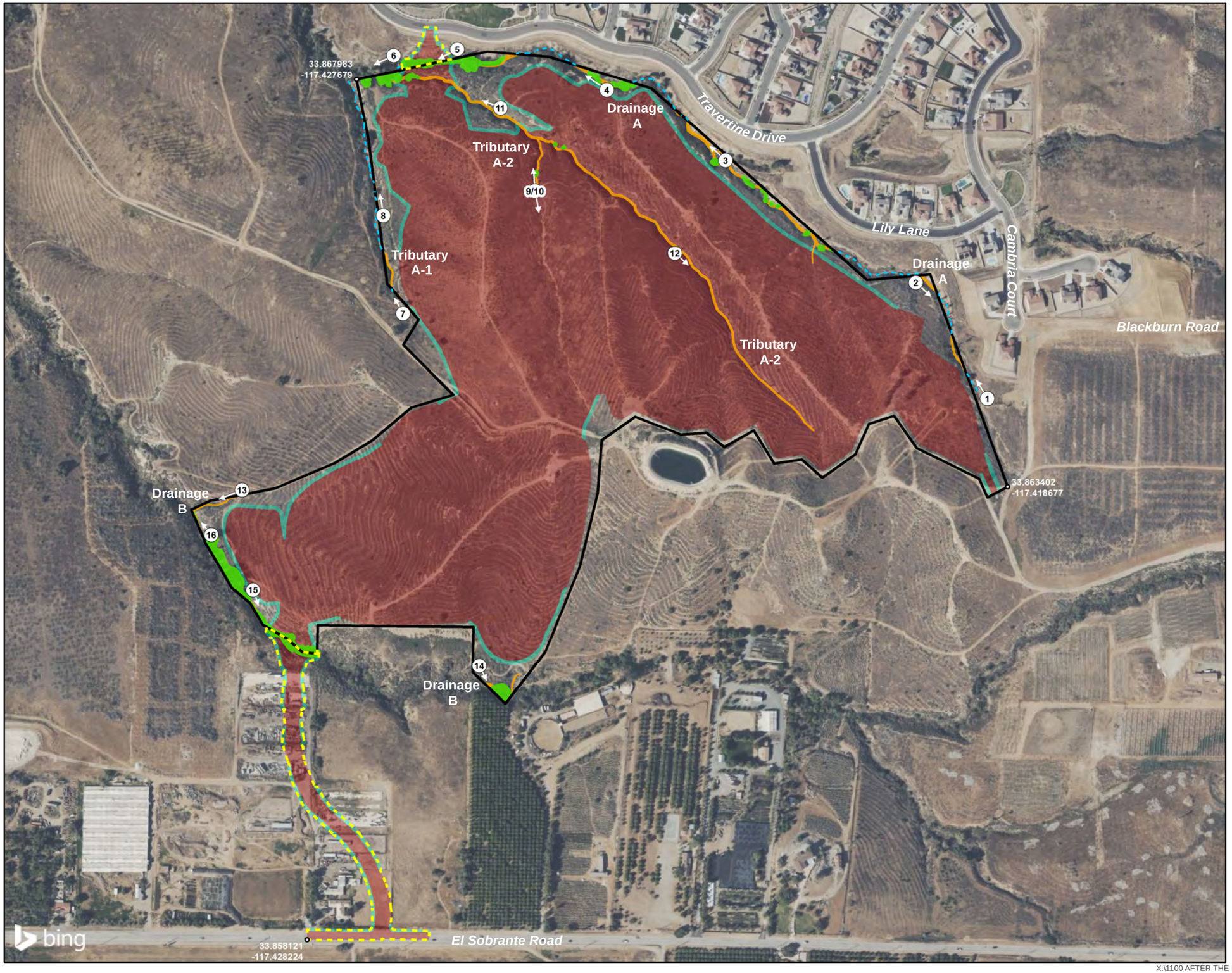
GREEN TREE PROJECT

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 6

X:\1100 AFTER THE REST\1106-02GNTR\GIS\VegetationGIS\1106-02_Vegetation.mxd



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

MSHCP Riparian

MSHCP Riverine

Flowline - Not a Part

Photo Location

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 19, 2024

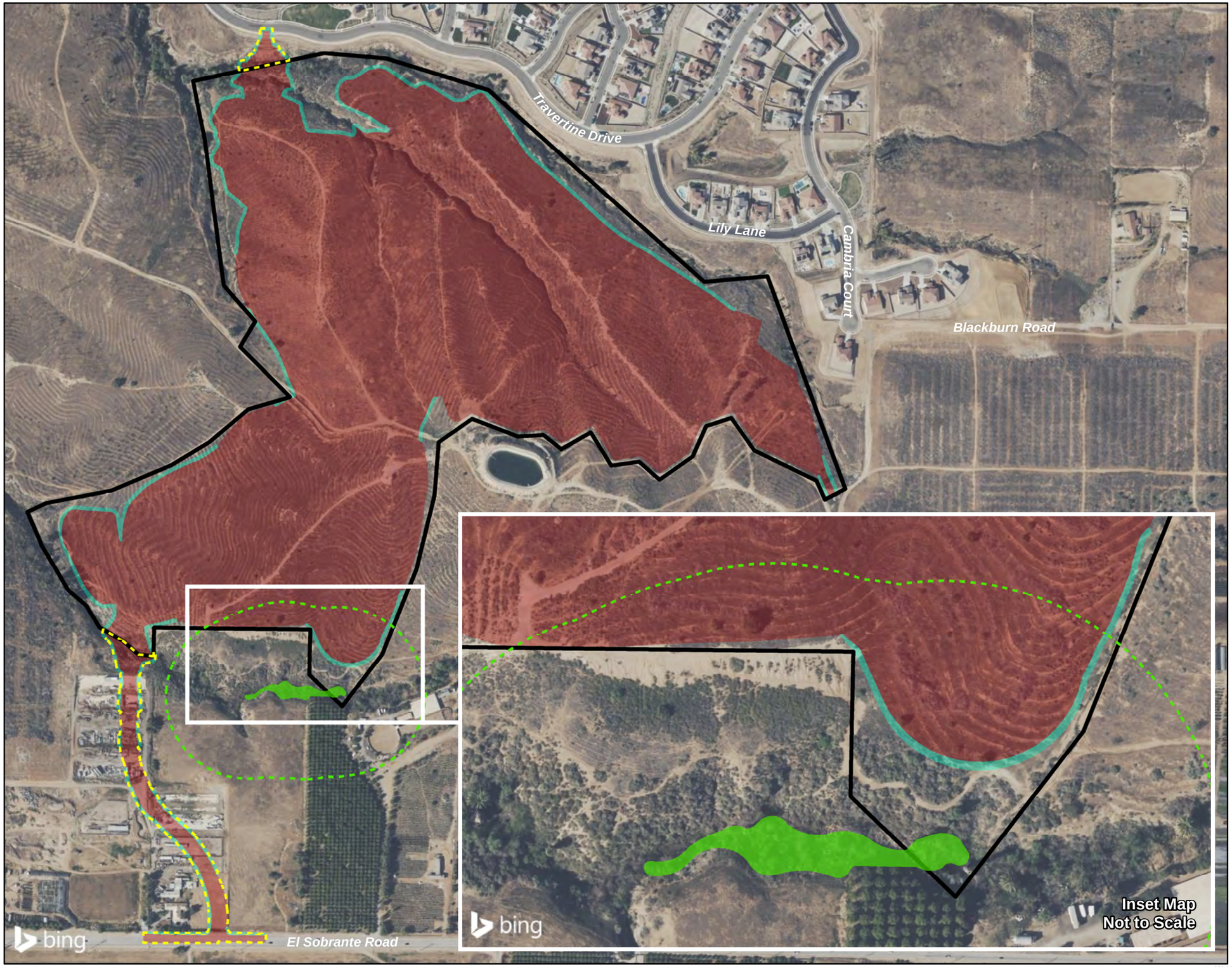
GREEN TREE PROJECT

MSHCP Riparian/Riverine Map

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\1100 AFTER THE REST\1106-02GNTR\GIS\ImpactsGIS\REV2\1106-02_MSHCP_JD_ImpactsREV2.mxd



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

Single Male
Least Bell's Vireo Territory

100-meter Buffer

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

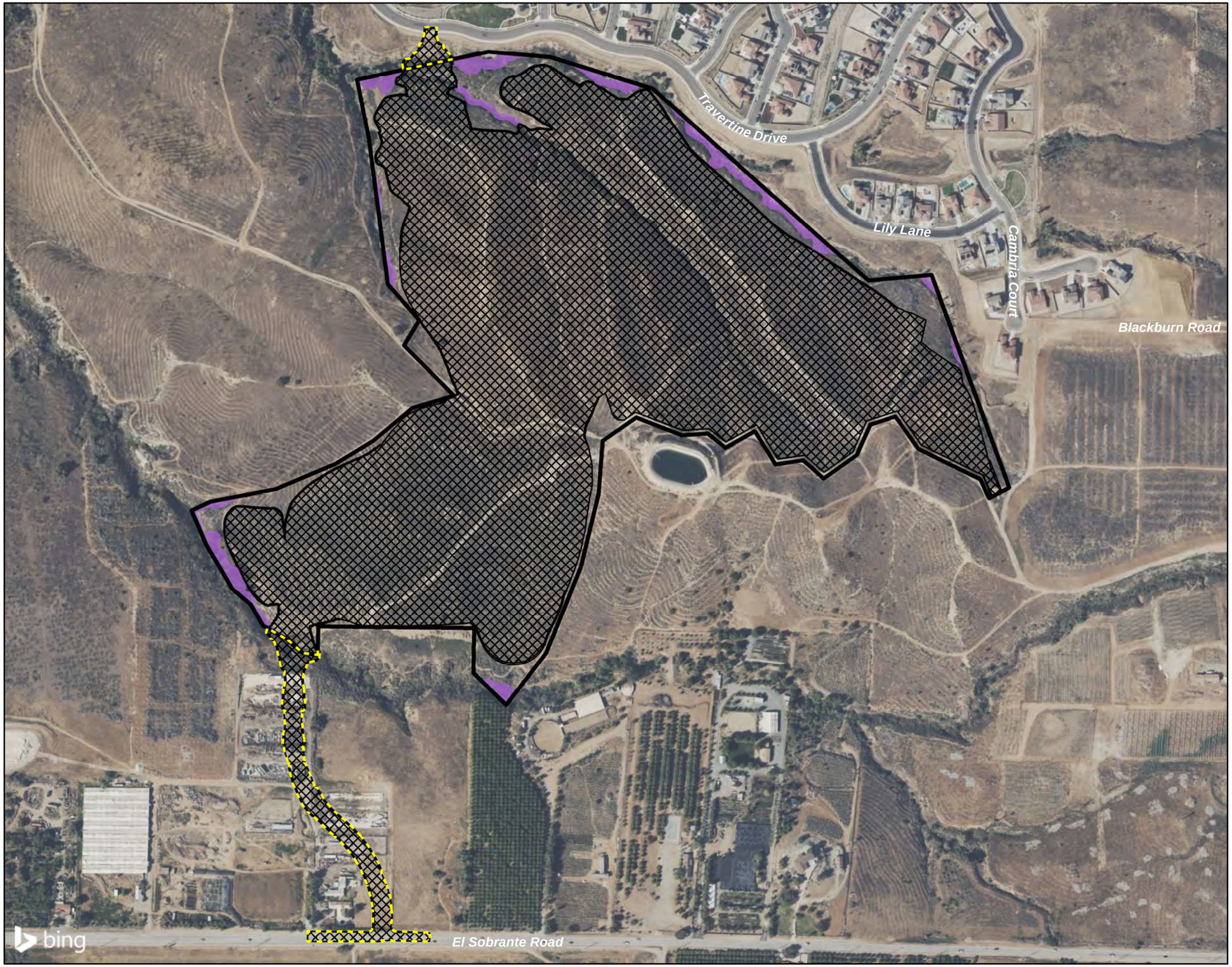
GREEN TREE PROJECT

Least Bell's Vireo Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 8

X:\1100 AFTER THE REST\1106-02GNTR\GIS\LBV_GIS\1106-02_LBV_SurveyResults.mxd



Project - Onsite

Project - Offsite

Impact Area

Potential Mitigation Areas

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

GREEN TREE PROJECT

Proposed Mitigation Areas

GLENN LUKOS ASSOCIATES

Exhibit 9

X:\1100 AFTER THE REST\1106-02GNTR\GIS\MitigationGIS\1106-02_Mitigation.mxd

APPENDIX A

GLENN LUKOS ASSOCIATES
Regulatory Services

December 13, 2023

Mitch Adkison
Executive Vice President
Adkan Engineers
6879 Airport Drive
Riverside, California 92504

SUBJECT: Jurisdictional Delineation of the Green Tree Project Site, an Approximate 98.59-Acre Site Located in Unincorporated Riverside County, California

Dear Mr. Adkison:

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

The Green Tree Project (Project site) in unincorporated Riverside County [Exhibit 1] comprises approximately 98.59 acres as depicted on the U.S. Geological Survey (USGS) topographic map Lake Mathews, California [Exhibit 2]. The Project site is bordered by the Citrus Heights residential development to the north, rural lands and El Sobrante Rd. to the south, agricultural lands to the east, and disturbed rural and residential lands to the west.

On September 15, 2023, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the Project site to determine the presence and limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. Enclosed are 400-scale maps [Exhibits 3A, 3B, 3C] that depict the areas of Corps, Regional Board and CDFW jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4. Wetland data sheets are attached as Appendix A and Streambed Duration Assessment Method (SDAM) forms are attached as Appendix B.

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

Corps jurisdiction at the Project site totals approximately 0.26 acre, of which 0.16 acre consists of federal wetlands.

Regional Board jurisdiction at the Project site totals approximately 0.75 acre, of which 0.16 acre consist of State wetlands. Of this total, 0.26 acre, of which 0.16 acre consists of State wetlands comprise Corps jurisdiction and the remaining 0.49 acre represents Regional Board jurisdiction only.

CDFW jurisdiction at the Project site totals approximately 1.89 acres, of which 1.28 acres consist of riparian habitat.

I. METHODOLOGY

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

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

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

Buren Fine Sandy Loam, 2 to 8 Percent Slopes, Eroded (BuC2)

The Buren series consists of well drained slow to moderately slowly permeable soils. These soils are on gently to strongly sloping alluvial fans and terraces. They formed in alluvium derived mostly from basic igneous rocks and partly from other crystalline rocks. Average annual precipitation of 12 to 15 inches.

Cajalco Fine Sandy Loam, 8 to 15 Percent Slopes (CaD2), Eroded; Cajalco Fine Sandy Loam, 15 to 35 Percent Slopes, Eroded (CaF2); and Cajalco Rocky Fine Sandy Loam, 15 to 50 Percent Slopes, Eroded (CbF2)

The Cajalco soils are well drained, moderately permeable and occur on gently sloping to steep uplands in areas of deeply weathered, basic igneous rocks. Average annual rainfall is 9 to 16 inches.

Fallbrook Sandy Loam, 8 to 15 Percent Slopes, Eroded (FaD2)

The Fallbrook series consists of deep, well drained soils that formed in material weathered from granitic rocks. Fallbrook soils are on rolling hills and have slopes of 5 to 75 percent. The mean annual precipitation is about 15 inches.

Las Posas Loam, 2 to 8 Percent Slopes (LaC)

The Las Posas series consists of moderately deep, well drained soils that formed in material weathered from basic igneous rocks. Las Posas soils are on mountainous uplands and have slopes of 5 to 50 percent. The mean annual precipitation is about 16 inches.

II. JURISDICTION

A. Army Corps of Engineers

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B. Regional Water Quality Control Board

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

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts

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

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

1. State Wetland Definition

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

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

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

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

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.[9]

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

C. California Department of Fish and Wildlife

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

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

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

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

III. RESULTS

The Project site is comprised of vacant and disturbed land that functioned as a citrus operation until the early 2000's. Evidence of operational site disturbance includes compacted soils, erosional areas, debris piles, and various dirt roads. Elevation ranges from approximately 1,425 feet above mean sea level (amsl) to 1,235 feet amsl. The following vegetation types occur within the Project site: Red Brome Grasslands, Brittle Bush Scrub, Disturbed/Developed Land, Four Wing Saltbush Scrub, Pepper Tree Groves, Goodding's Willow Riparian Woodland, Eucalyptus Groves, and Mulefat Thickets.

A total of four drainage features extend through the Project site in a general north/northwest direction before continuing offsite towards the neighboring Citrus Heights development, and eventually the Gage Canal. The Gage Canal is a man-made irrigation canal that is a distributary of the Santa Ana River. The drainages at the Project site range from ephemeral to intermittent within portions containing perennial seeps, and are described herein as Drainage A, Tributary A-1, Tributary A-2, and Drainage B.

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly before continuing its path offsite. The upper and middle reaches of Drainage A are dry with portions of the channel incised down to bedrock. The upper reaches are disturbed with patches of tree tobacco (*Nicotiana glauca*, FAC), Mexican fan palm (*Washingtonia robusta*, FACW)), desert brittlebush (*Encelia farinose*, UPL), mulefat (*Baccharis salicifolia*, FAC), castor bean (*Ricinus communis*, FACU), Peruvian pepper (*Schinus molle*, UPL), four-wing saltbush (*Atriplex canescens*, UPL), blue elderberry (*Sambucus nigra* ssp. *caerulea*, FACU), California buckwheat (*Eriogonum fasciculatum*, UPL), black mustard (*Brassica nigra*, UPL), and various bromes (*Bromus* ssp.).

A perennial seep occurs in the downstream reach of Drainage A where the drainage course becomes vertically incised to a depth that coincides with a semi-impermeable layer. This area receives relatively permanent hydrology from a buried pipe culvert that conveys flows from the neighboring development to the north. The mid and downstream reaches of Drainage A support areas of dense willow riparian canopy including black willow (*Salix goodingii*, FACW) and

arroyo willow (*Salix lasiolepis*, FACW). Additional species associated with the drainage include stinging nettle (*Urtica dioica*, FAC), mulefat (*Baccharis salicifolia*, FAC), yerba mansa (*Anemopsis californica*, OBL), Mexican fan palm, Canary palm (*Phoenix canariensis*, UPL), and perennial pepperweed (*Lepidium latifolium*, FAC). Portions of Drainage A exhibit evidence of hydric soils and support emergent hydrophytic plant species such as southern cattail (*Typha domingensis*, OBL), duckweed (*Lemna* sp., OBL), and water cress (*Nasturtium officinale*, OBL). Wetland data sheets are attached as Appendix A.

Tributaries A-1 and A-2 flow only in direct response to precipitation and were completely dry during the field assessment. Both features extend northerly/northwesterly and are tributary to Drainage A. Tributary A-1 meanders in a northerly direction along the western Project boundary, with approximately 254 linear feet occurring within the Project site. Tributary A-1 is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle (*Salsola tragus*, FACU), four-wing saltbush, California buckwheat, black mustard, and various bromes. Additional vegetation associated with the downstream extent includes Peruvian pepper, blue elderberry, and sparse occurrences of mulefat.

Tributary A-2 originates in the east central portion of the Project site and extends northwesterly for approximately 2,738 linear feet before its eventual confluence with Drainage A. The drainage is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle, four-wing saltbush, California buckwheat, and black mustard. Sparse riparian vegetation associated with the drainage includes blue elderberry and sparse occurrences of mulefat. The majority of the channel banks are incised with erosional undercutting, rock and cobble, and sediment deposition within the low flow channel.

Drainage B conveys intermittent flows from the neighboring citrus operations in the southeast and contained standing water during the field assessments. This feature is interspersed by perennial seeps that occur where the drainage course becomes vertically incised to a depth where ground water is perched. Drainage B runs along the southwestern and southern boundaries of the Project site and extends in a general west/northwest direction for approximately 998 linear feet before continuing its path offsite towards its eventual confluence with Drainage A. Drainage B supports areas of vegetated riparian habitat adjacent to the channel banks. The downstream reaches of Drainage B are moderately disturbed with stands of tree tobacco, California juniper, Mexican fan palm, desert brittlebush, castor bean, Peruvian pepper, four-wing saltbush, California buckwheat, and black mustard. Riparian species associated with the drainage include mulefat, blue elderberry, black willow and arroyo willow. Additional species include stinging nettle, yerba mansa, Mexican fan palm, and Canary palm. Where perennial seeps occur, Drainage B supports emergent hydrophytic plant species such as southern cattail, duckweed, and water cress.

A. Corps Jurisdiction

Corps jurisdiction at the Project site totals approximately 0.26 acre, of which 0.16 acre consists of federal wetlands.

Corps jurisdiction at the Project site is limited to the downstream reach of Drainage A and the majority of Drainage B. These drainages convey relatively permanent flows and encompass wetlands dominated by hydrophytes. Tributaries of waters of the U.S. that convey relatively permanent flows are considered waters of the U.S. as defined under 33 CFR Part 328.3(a). As such, the downstream reach of Drainage A and all of Drainage B within the Project site are subject to Corps jurisdiction under Section 404 of the CWA.

The Project site also contains two drainage features and portions of two drainages that flow only in direct response to precipitation and were completely dry during the field delineation. These include the majority of Drainage A, Tributary A-1, Tributary A-2, and two small tributary segments of Drainage B. Features that do not convey a relatively permanent flow of water are not considered waters of the U.S. as defined under 33 CFR Part 328.3(a), and are therefore not subject to Corps jurisdiction under Section 404 of the CWA. SDAM forms are provided as Appendix B.

Table 1 below summarizes Corps jurisdiction at the Project site, followed by a description of each feature. The boundaries of the waters of the United States are depicted on Exhibit 3A. Site photographs are provided as Exhibit 4.

Table 1: Summary of Corps Jurisdiction

Drainage Name	Non-Wetland Waters of the U.S. (acres)	Wetland Waters of the U.S. (acres)	Total Waters of the U.S. (acres)	Length (linear feet)
Drainage A	0.02	0.06	0.08	306
Drainage B	0.08	0.10	0.18	710
Total	**0.10**	**0.16**	**0.26**	**1,016**

1. **Drainage A**

Corps jurisdiction associated with Drainage A totals 0.08 acre, of which 0.06 acre consists of federal wetlands.

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly before continuing its path offsite. Corps jurisdiction associated with Drainage A is limited to the downstream reach, totaling approximately 306 linear feet. This portion of the drainage is fed by a pipe culvert that conveys relatively permanent flows from the adjacent development to the north. OHWM indicators range from approximately eight (8) to 12 feet in width as evidenced by water marks, changes in soil characteristics, wracking and shelving. A perennial seep occurs in the low flow channel, which has resulted in an approximate 0.06-acre wetland. Wetland indicators include the presence of surface water, hydrogen sulfide odor, and a predominance of hydrophytic vegetation as described above. Wetland data sheets are provided as Appendix A.

2. **Drainage B**

Corps jurisdiction associated with Drainage B totals 0.18 acre, of which 0.10 acre consists of federal wetlands.

Drainage B is an incised drainage that conveys relatively permanent flows from the neighboring citrus orchards and surrounds. Drainage B runs northwesterly along the southwestern and southern boundaries of the Project site for approximately 998 linear feet. The drainage exhibits an OHWM ranging from eight (8) to 25 feet in width and is evidenced by watermarks, presence of litter and debris, changes in soil characteristics, wracking, and shelving. A series of perennial seeps occur in the low flow channel, resulting in approximately 0.10 acre of wetlands. Wetland indicators include the presence of surface water, hydrogen sulfide odor, and a predominance of hydrophytic vegetation. Wetland data sheets are provided as Appendix A.

B. <u>Regional Water Quality Control Board Jurisdiction</u>

Regional Board jurisdiction at the Project site totals approximately 0.75 acre, of which 0.16 acre consists of State wetlands. Of this total, 0.26 acre, of which 0.16 acre consists of State wetlands comprise Corps jurisdiction and the remaining 0.49 acre represents Regional Board jurisdiction only.

Regional Board jurisdiction at the Project site includes Drainage A, Tributary A-1, Tributary A-2, and Drainage B. The downstream reach of Drainage A and the majority of Drainage B convey relatively permanent flows with encompassing wetlands and are subject to Corps jurisdiction

under Section 404 of the CWA. Accordingly, these features are also subject to Regional Board jurisdiction under Section 401 of the CWA and need not be analyzed separately under Section 13260 of the CWC.

As noted above, the remaining portions of Drainage A, Tributary A-1, Tributary A-2, and two small tributary segments of Drainage B do not convey a relatively permanent flow of water and are not subject to Corps jurisdiction under Section 404 of the CWA. However, since these features convey surface flow with the potential to support beneficial uses, they are considered waters of the State that would be subject to Regional Board jurisdiction under Section 13260 of the CWC.

Table 2 below summarizes Regional Board jurisdiction at the Project site, followed by a description of each feature. The boundaries of the waters of the State are depicted on Exhibit 3B. Site photographs are provided as Exhibit 4.

Table 2: Summary of Regional Board Jurisdiction

Drainage Name	Non-Wetland Waters of the State (acres)	Wetland Waters of the State (acres)	Total Waters of the State (acres)	Length (linear feet)
Waters of the U.S./State				
Drainage A	0.02	0.06	0.08	306
Drainage B	0.08	0.10	0.18	710
Sub-Total	*0.10*	*0.16*	*0.26*	*1,016*
Waters of the State Only				
Drainage A	0.24	0	0.24	1,756
Tributary A-1	0.01	0	0.01	254
Tributary A-2	0.23	0	0.23	2,738
Drainage B	0.01	0	0.01	288
Sub-Total	*0.48*	*0*	*0.48*	*4,748*
Total	**0.10**	**0.16**	**0.75**	**6,052**

1. Drainage A

Regional Board jurisdiction associated with Drainage A totals 0.32 acre, of which 0.06 acre consists of State wetlands. Of this total, 0.08 acre, of which 0.06 acre consists of State wetlands, is identical to Corps jurisdiction and the remaining 0.24 acre is subject to Regional Board jurisdiction only.

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly along the northern Project boundary from southeast to northwest for approximately 2,062 before continuing its path offsite. The up and middle reaches of Drainage A are dry with portions of the channel incised down to bedrock. These reaches are disturbed with patches of upland vegetation along the channel banks. Stream flow indicators range from two (2) to 12 feet in width as evidenced by changes in soil characteristics, break in bank slope, and presence of debris. Further down the watershed, Drainage A transitions from an ephemeral system to an intermittent system with associated wetlands. The downstream drainage reach is fed by a pipe culvert that conveys relatively permanent flows from the adjacent development to the north. OHWM indicators in this portion of the channel range from approximately eight (8) to 12 feet in width as evidenced by water marks, changes in soil characteristics, wracking, and defined channel banks. A perennial seep occurs in the low flow channel, which has resulted in an approximate 0.06-acre wetland. Wetland indicators include the presence of surface water, hydrogen sulfide odor, and a predominance of hydrophytic vegetation as described above. Wetland data sheets are provided as Appendix A.

2. **Tributary A-1**

Regional Board jurisdiction associated with Tributary A-1 totals 0.01 acre, none of which consists of State wetlands. Tributary A-1 is an ephemeral drainage that extends northerly/northwesterly along the western Project boundary for approximately 254 linear feet before exiting the site.

Tributary A-1 exhibits an OHWM extending up to six feet wide as evidenced by changes in soil characteristics and incised banks. Vegetation associated with this feature is primarily brittle bush scrub and four wing saltbush scrub with some sparse mulefat, elderberry, and pepper tree inclusions in the downstream reach. This feature lacks hydrophytic vegetation and was completely dry during the field delineation.

3. **Tributary A-2**

Regional Board jurisdiction associated with Tributary A-2 totals 0.23 acre, none of which consists of State wetlands. Tributary A-1 is a disturbed ephemeral drainage that extends through the central portion of the Project site in a northwesterly direction for approximately 2,738 linear feet.

Tributary A-2 exhibits an OHWM extending up to five feet wide as evidenced by changes in soil characteristics and incised banks. Vegetation associated with this feature includes red brome grasslands with four wing saltbush scrub in the downstream reach. A few scattered mulefat and

elderberry occur in the middle reached of the drainage. This feature lacks hydrophytic vegetation and was completely dry during the field delineation.

4. Drainage B

Regional Board jurisdiction associated with Drainage B totals 0.19 acre, of which 0.10 acre consists of State wetlands. Of this total, 0.18 acre, of which 0.10 acre consists of State wetlands, is identical to Corps jurisdiction and the remaining 0.01 acre is subject to Regional Board jurisdiction only.

Drainage B is an incised drainage that conveys relatively permanent flows from the neighboring citrus orchards and surrounds. Drainage B runs northwesterly along the southwestern and southern boundaries of the Project site for approximately 998 linear feet and is inclusive of two ephemeral tributaries that connect to the mainstem channel. The drainage exhibits an OHWM ranging from eight (8) to 25 feet in width and is evidenced by watermarks, presence of litter and debris, changes in soil characteristics, wracking, and shelving. A series of perennial seeps occur in the low flow channel, resulting in approximately 0.10 acre of wetlands. Wetland indicators include the presence of surface water, hydrogen sulfide odor, and a predominance of hydrophytic vegetation. Wetland data sheets are provided as Appendix A.

C. CDFW Jurisdiction

CDFW jurisdiction at the Project site totals approximately 1.89 acres, of which 1.28 acres consist of riparian habitat and includes all areas within Corps and Regional Board jurisdiction.

CDFW jurisdiction at the Project site includes Drainage A, Tributary A-1, Tributary A-2, and Drainage B. These features convey ephemeral to relatively permanent flows with physical and biological stream flow indictors including changes in soil characteristics, break in bank slope, and incised channel banks with identifiable widths. These features support wetland/riparian habitat and/or have the potential to support aquatic resources and are subject to CDFW jurisdiction under Section 1600 of the Fish and Game Code.

Table 3 below summarizes CDFW jurisdiction at the Project site, followed by a description of each feature. The boundaries of CDFW jurisdiction are depicted on Exhibit 3C. Site photographs are provided as Exhibit 4.

Table 3: Summary of CDFW Jurisdiction

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Drainage A	0.22	0.45	0.68	2,071
Tributary A-1	0.02	0.00	0.02	254
Tributary A-2	0.33	0.16	0.49	2,738
Drainage B	0.04	0.67	0.71	1011
Total	**0.61**	**1.28**	**1.89**	**6074**

1. Drainage A

CDFW jurisdiction associated with Drainage A totals 0.68 acre, of which 0.45 acre consists of riparian habitat.

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly along the northern Project boundary from southeast to northwest for approximately 2071 before continuing its path offsite. The up and middle reaches of Drainage A are dry with portions of the channel incised down to bedrock. These reaches are disturbed with patches of upland vegetation along the channel banks. Stream flow indicators include changes in soil characteristics, break in bank slope, and presence of debris. Further down the watershed, Drainage A transitions from an ephemeral system to an intermittent system with associated wetlands. The downstream drainage reach is fed by a pipe culvert that conveys relatively permanent flows from the adjacent development to the north. Physical indicators of streamflow in this portion of the channel include water marks, changes in soil characteristics, wracking, and defined channel banks. A perennial seep occurs in the low flow channel, which has resulted in an approximate 0.06-acre wetland. Riparian habitat associated with this feature extends to the dripline of the channel.

2. Tributary A-1

CDFW jurisdiction associated with Tributary A-1 totals 0.02 acre, none of which consists of riparian habitat. Tributary A-1 is an ephemeral drainage that extends northerly/northwesterly along the western Project boundary for approximately 254 linear feet before exiting the site.

Tributary A-1 averages six feet wide as evidenced by changes in soil characteristics and incised banks. Vegetation associated with this feature is primarily brittle bush scrub and four wing saltbush scrub with some sparse mulefat, elderberry, and pepper tree inclusions in the

downstream reach. This feature lacks hydrophytic vegetation and was completely dry during the field delineation.

3. Tributary A-2

CDFW jurisdiction associated with Tributary A-2 totals 0.49 acre, of which 0.16 acre consists of riparian habitat. Tributary A-1 is a disturbed ephemeral drainage that extends through the central portion of the Project site in a northwesterly direction for approximately 2,738 linear feet.

Tributary A-2 averages five feet wide as evidenced by changes in soil characteristics and incised channel banks. Vegetation associated with this feature includes red brome grasslands with four wing saltbush scrub in the downstream reach. A few scattered mulefat and elderberry occur along the middle reaches of the drainage. This feature lacks hydrophytic vegetation and was completely dry during the field delineation.

4. Drainage B

CDFW jurisdiction associated with Drainage B totals 0.71 acre, of which 0.67 acre consists of riparian habitat.

Drainage B is an incised drainage that conveys relatively permanent flows from the neighboring citrus orchards and surrounds. Drainage B runs northwesterly along the southwestern and southern boundaries of the Project site for approximately 1,011 linear feet and is inclusive of two ephemeral tributaries that connect to the mainstem channel. The low flow channel extends upwards of 25 feet in width as evidenced by watermarks, presence of litter and debris, changes in soil characteristics, wracking, and shelving. A series of perennial seeps occur in the low flow channel, resulting in approximately 0.10 acre of wetland. Riparian vegetation associated with this feature extends to the dripline of the channel.

If you have any questions about this letter report, please contact Jason Fitzgibbon at (949) 340-3974.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Lesley Lokovic-Gamber
Senior Regulatory Specialist

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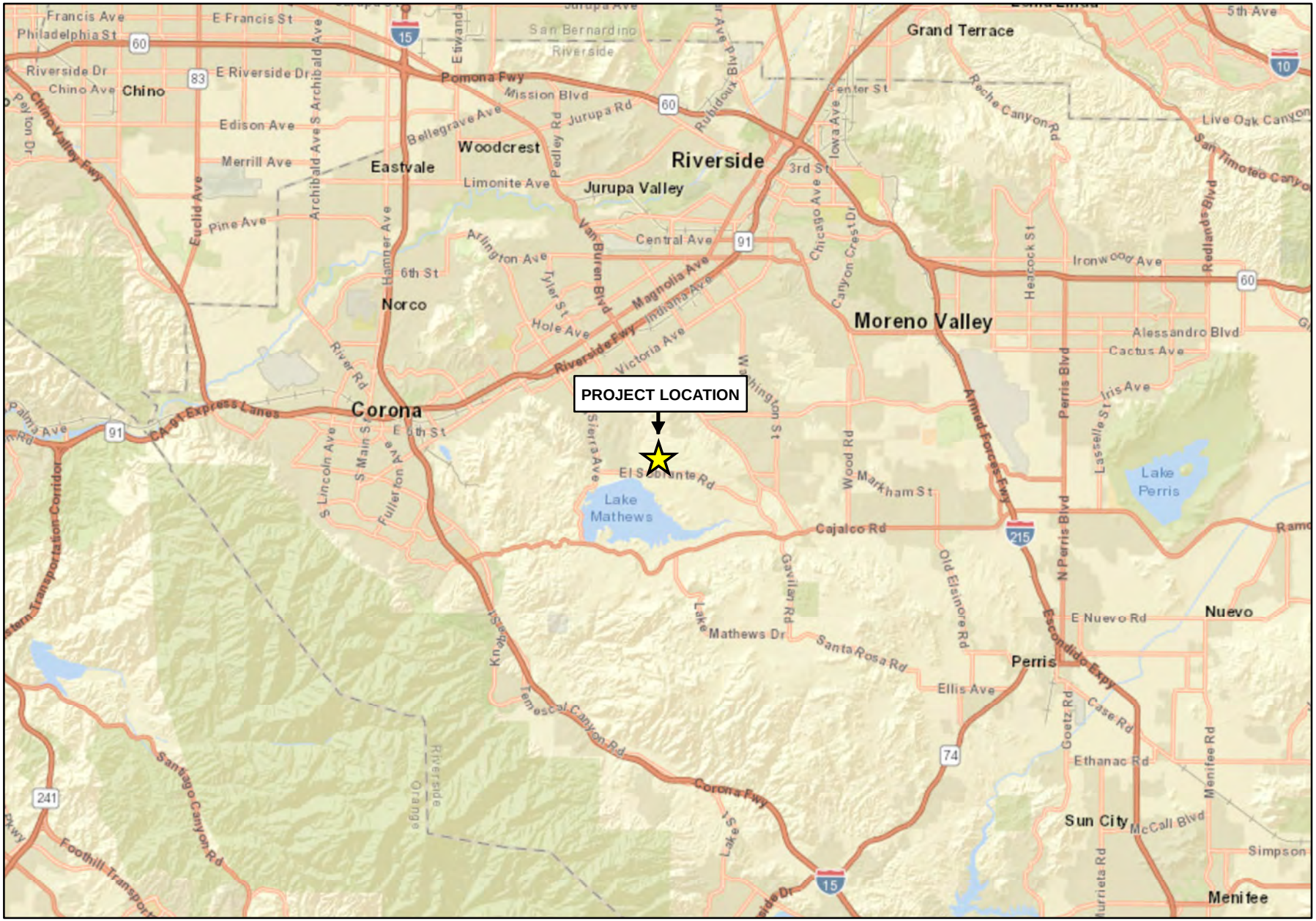


Source: ESRI World Street Map

N

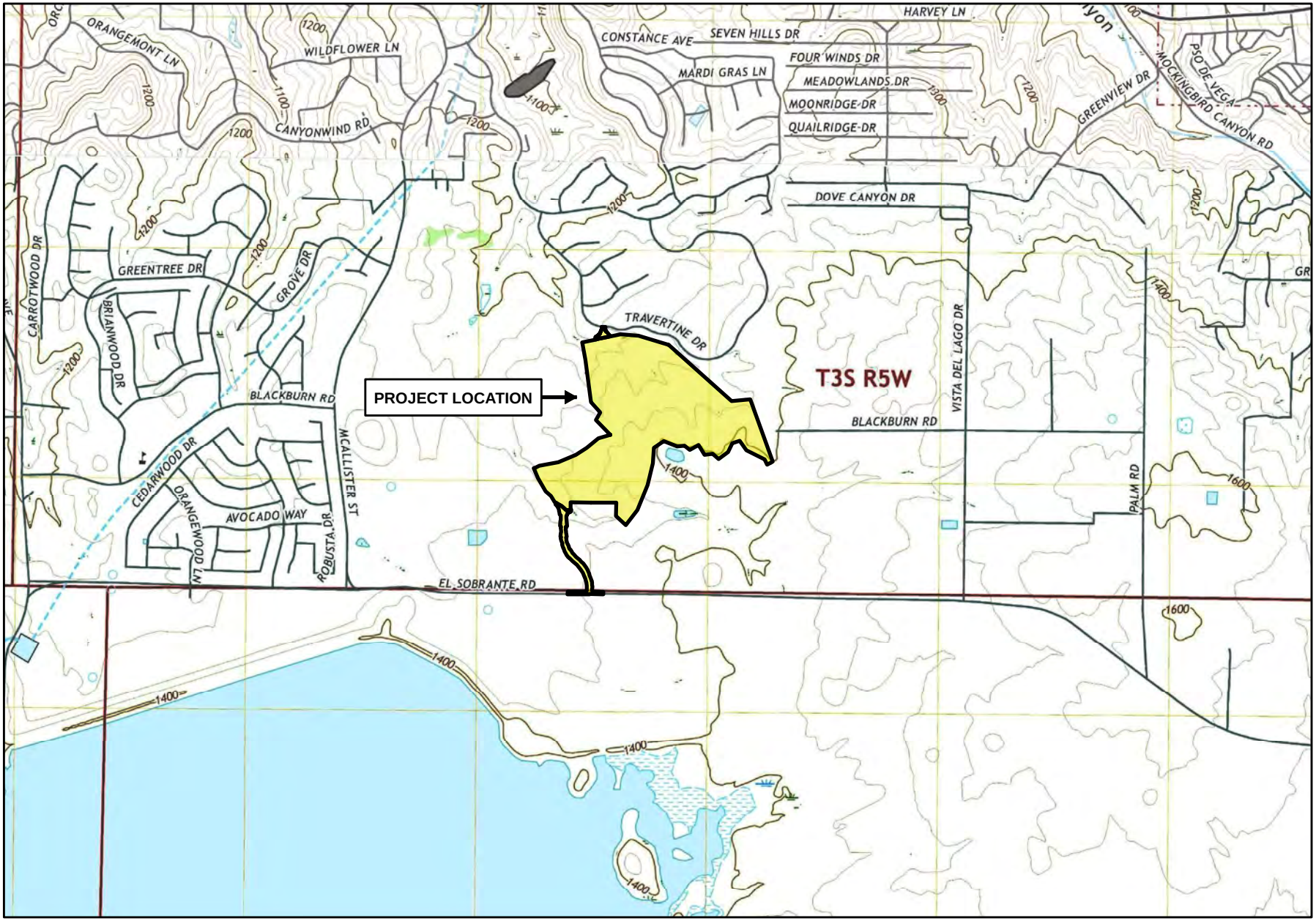
0 2 4 8 Miles

GREEN TREE PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Lake Mathews, CA quadrangle

N

0 1,000 2,000 4,000 Feet

GREEN TREE PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Project - Onsite

Project - Offsite

Wetland
Waters of the U.S.

Non-Wetland
Waters of the U.S.

Non-Jurisdictional Feature

Flowline - Not a Part

Width in Feet
(W indicates Wetland)

Sampling Point

Photo Location

N

0 200 400 800
Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 12, 2023

GREEN TREE PROJECT

Potential Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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Project - Onsite

Project - Offsite

Wetland
Waters of the State

Non-Wetland
Waters of the State

Flowline - Not a Part

Width in Feet
(W indicates Wetland)

Sampling Point

Photo Location

N

0 200 400 800
Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 6, 2023

GREEN TREE PROJECT

RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

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Project - Onsite

Project - Offsite

Riparian Stream

Non-Riparian Stream

Flowline - Not a Part

Photo Location

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 6, 2023

GREEN TREE PROJECT

CDFW Jurisdictional Delineation Map

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Exhibit 3C

X:\1100 AFTER THE REST\1106-02GNTR\GIS\DelineationGIS\1106-02_CDFW.mxd

Photograph 1: Downstream view depicting start of Drainage A facing north/northwest.

Photograph 2: Upstream view of Drainage A facing south/southeast.

Photograph 3: Downstream view of Drainage A fork facing northwest from top of berm.

Photograph 4: Downstream view of Drainage A facing northwest.

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Exhibit 4 – Page 1

GREEN TREE PROJECT

Site Photographs

Photograph 5: Downstream view of Drainage A looking down at start of wetland and perennial seep.

Photograph 6: Downstream view of Drainage A where the drainage continues its path offsite.

Photograph 7: View from uplands facing north towards start of Tributary A-1.

Photograph 8: Downstream view of Tributary A-1 A middle reach facing north.

Photograph 9: Downstream view depicting start of Tributary A-2 facing north.

Photograph 10: View from start of Tributary A-2 facing south at uplands.

Photograph 11: Downstream view of Tributary A-2 facing west from lower reach of channel.

Photograph 12: Upstream view of Tributary A-2 facing southeast from upper reach of channel.

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Exhibit 4 – Page 3

GREEN TREE PROJECT

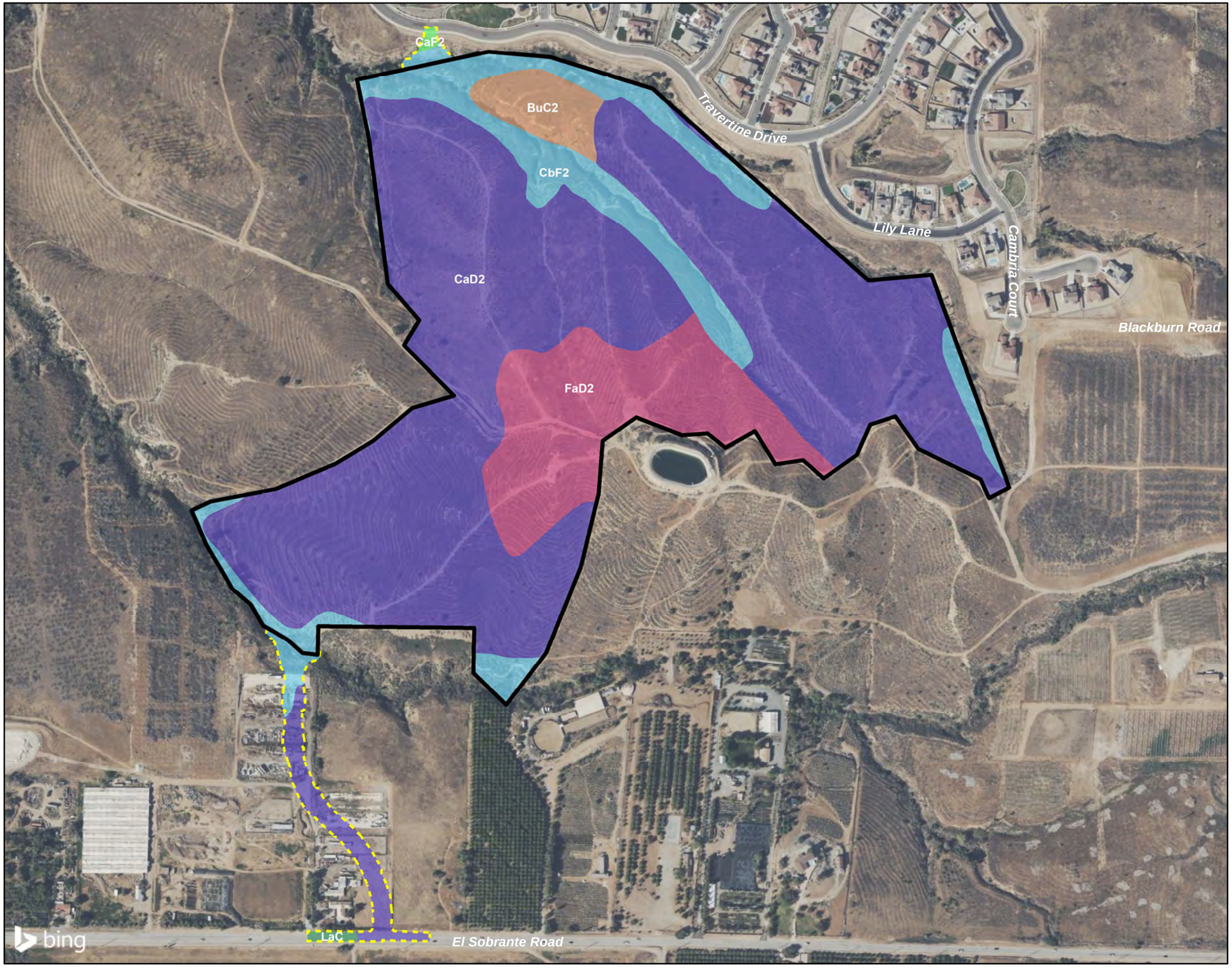
Site Photographs

Photograph 13: Downstream view of small ephemeral tributary associated with Drainage B facing west towards main channel.

Photograph 14: Upstream view of Drainage B wetland/riparian habitat within southern portion of Project site facing east/southeast.

Photograph 15: Upstream view of Drainage B wetland/riparian habitat facing south/southeast.

Photograph 16: Downstream view of Drainage B facing northwest where the drainage continues its path offsite.



- Project - Onsite
- Project - Offsite
- BuC2 — Buren fine sandy loam, 2 to 8 percent slopes, eroded
- CaD2 — Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 — Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbF2 — Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- FaD2 — Fallbrook sandy loam, 8 to 15 percent slopes, eroded
- LaC — Las Posas loam, 2 to 8 percent slopes

N

0 200 400 800
Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 6, 2023

GREEN TREE PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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APPENDIX A

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Greentree Ranch project City/County: Unincorporated/Riverside Co Sampling Date: 09/15/23

Applicant/Owner: Adkan Engineers State: CA Sampling Point: 1

Investigator(s): L. Lokovic, D. Smith Section, Township, Range: S32, T35, R5W

Landform (hillslope, terrace, etc.): channel bed Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): C Lat: 33.868209 Long: -117.426420 Datum: NAD 83

Soil Map Unit Name: Cajalco Rocky Fine Sandy Loam NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	15	Y	FACW
2.			
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10'x20')			
1. Typha domingensis	50	Y	FACW
2. Baccharis salicifolia	10	Y	FAC
3. Ficus carica	8	Y	FACU
4. Baccharis emoryi	5	N	UPL
5.			
	75 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Urtica dioca	10	Y	FAC
2. Nasturtium officinale	10	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	65	x 2 =	130
FAC species	20	x 3 =	60
FACU species	8	x 4 =	32
UPL species	5	x 5 =	25
Column Totals:	108 (A)		257 (B)

Prevalence Index = B/A = 2.38

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	see comment							standing water

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Standing water in low flow channel; soils assumed present based on presence of hydrophytic vegetation and hydrology

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Greentree Ranch project City/County: Unincorporated/Riverside Co Sampling Date: 09/15/23

Applicant/Owner: Adkan Engineers State: CA Sampling Point: 2

Investigator(s): L. Lokovic, D. Smith Section, Township, Range: S32, T35, R5W

Landform (hillslope, terrace, etc.): channel bed Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR): C Lat: 33.861381 Long: -117.428178 Datum: NAD 83

Soil Map Unit Name: Cajalco Rocky Fine Sandy Loam NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	35	Y	FACW
2. Salix lasiolepis	15	Y	FACW
3. Nicotiana glauca	10	N	FAC
4. Washingtonia robusta	5	N	FACW
	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10'x20')			
1. Typha domingensis	50	Y	OBL
2. Baccharis salicifolia	15	Y	FAC
3. Urtica dioca	8	N	FAC
4.			
5.			
	73	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Nasturtium officinale	10	Y	OBl
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	55	x 2 =	110
FAC species	33	x 3 =	99
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	148 (A)		269 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	see comment							standing water, sulfide odor

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

Approx 12" of standing water; A4

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 12"

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

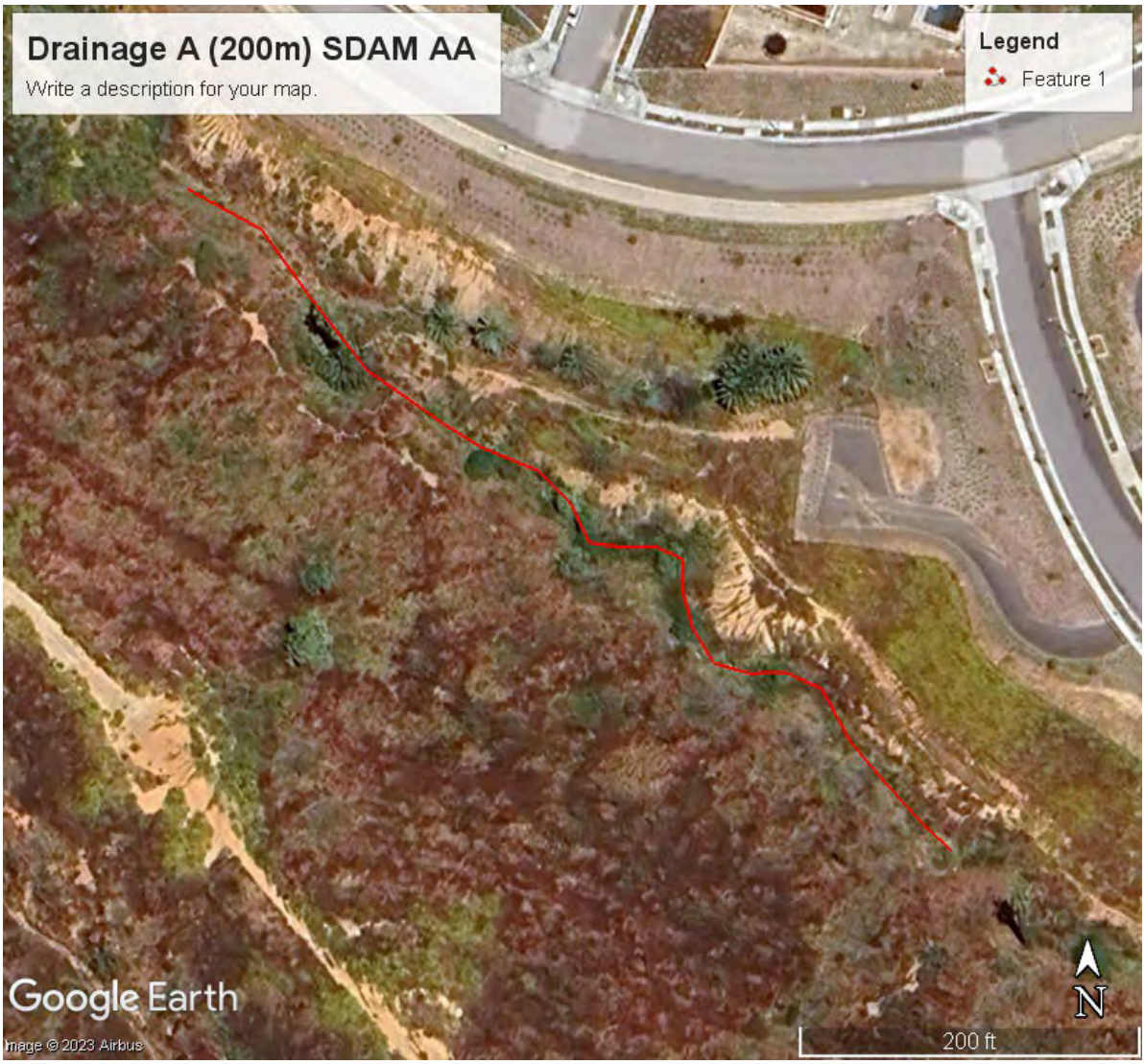
APPENDIX B

Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number: Greentree Project, Unincorporated Riverside County, CA		
Site code or identifier: N/A	Assessor(s): Lesley Lokovic and David Smith	
Waterway name: Unnamed drainage feature (referred to herein as Drainage A)		Visit date: September 15, 2023
Current weather conditions (check one) ☐ Storm/heavy rain ☐ Steady rain ☐ Intermittent rain ☐ Snowing ☐ Cloudy (___ % cover) X Clear/Sunny	Notes on current or recent weather conditions (e.g., precipitation in previous week): Clear; no precipitation in previous week	Coordinates at downstream end (decimal degrees): Lat (N): 33.867377 Long (W): -117.423055 Datum: NAD 1983
Surrounding land-use within 100 m (check one or two): X Urban/industrial/residential ☐ Agricultural (farmland, crops, vineyards, pasture) ☐ Developed open-space (e.g., golf course) ☐ Forested X Other natural – undeveloped land ☐ Other: _____	Describe reach boundaries: The reach boundary (the assessment area) is the central portion of Drainage A that occurs within the Project site. The reach extends northwesterly along the northern portion of the Project site for approximately 200 meters before briefly exiting the site. Vegetation observed in the Drainage A assessment area include FAC or drier species. No hydrophytes (FACW or OBL) were observed in the assessment area.	
Mean channel width (m) 2 m	Reach length (m): 40x width; min 40 m; max 200 m. 200 m	Enter photo ID, or check if completed Top down: _____ Mid down: _____ Mid up: _____ Bottom up: _____ X See photo exhibit.
Disturbed or difficult conditions (check all that apply): ☐ Recent flood or debris flow ☐ Stream modifications (e.g., channelization) ☐ Diversions ☐ Discharges ☐ Drought ☐ Vegetation removal/limitations ☐ Other (explain in notes) X None	Notes on disturbances or difficult site conditions:	
Observed hydrology: ___0___ % of reach with surface flow ___0___ % of reach with sub-surface or surface flow ___0___ # of isolated pools	Comments on observed hydrology: No surface water or saturation detected. Changes in soil characteristics observed in the channel.	

Site sketch:



Aerial view of Drainage A (200m) Assessment Area Reach. Google Earth 2023.

1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the **Arid West** regional wetland plant list) within the assessment area: **within the channel or up to one half-channel width**. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable: ☐ No vegetation in assessment area X No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID

Notes on hydrophytic vegetation: N/A. No hydrophytes in assessment area and little to no vegetation in assessment area.

2 and 3. Aquatic invertebrates

2. How many aquatic invertebrates are quantified in a 15-minute search?

Number of individuals quantified:
X None
☐ 1 to 19
☐ 20 +

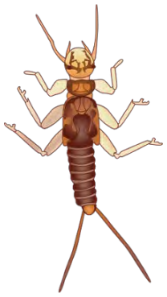
(Do not count mosquitos)

Photo ID:_____

3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?

Yes / No

Ephemeroptera larva
Image credit: Dieter Tracey



Plecoptera larva
Tracey Saxby

Trichoptera larva
Tracey Saxby

Notes on aquatic invertebrates:

4. Algal Cover

Are algae found on the streambed?		Notes on algae cover:	Photo ID:
☐ Check if *all* observed algae appear to be deposited from an upstream source.	X Not detected ☐ Yes, < 10% cover ☐ Yes, ≥ 10% (check Yes in single indicator below)		

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	☐ Yes X No, no fish ☐ No, only non-native mosquitofish		
Algae cover ≥ 10%	☐ Yes X No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Some moss <5% observed along shaded channel banks in the assessment area

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description
Jurisdictional Delineation Report 2023, Exhibit 5	See representative photos *, *, *, and *.

Additional notes about the assessment:

The Antecedent Precipitation Tool (APT) data for the date of the field visit (09/15/2023) shows that the visit was conducted during the dry season and normal conditions apply to this timeframe. The Drainage A assessment area was observed to be completely dry during the jurisdictional delineation conducted in September 2023.

The results of this form indicate an ephemeral conclusion due to an absence of hydrophytes, an absence of aquatic invertebrates, absence of EPT taxa, absence of algae, and absence of single indicators.

The results of the APT data and the information contained herein support the determination of an ephemeral streamflow duration for the upper and middle reaches of Drainage A as depicted on Exhibit 3A

of the jurisdictional delineation report. These results are also representative of Tributary A-1 as depicted on Exhibit 3A of the jurisdictional delineation report.

Classification: __Ephemeral_____

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover ≥ 10%	Classification
None	None	Absent	Absent	Absent	**Ephemeral**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
	Few (1-19)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
Few (1-2)	**None**	**Absent**	**Absent**	**Absent**	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present	Absent		**At least intermittent**
			Present		**Intermittent**
Many (3+)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent			**At least intermittent**
		Present			**Perennial**
	Many (20+)	Absent			**At least intermittent**
		Present			**Perennial**

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

Beta Arid West Streamflow Duration Assessment Method

General site information

Project name or number: Greentree Project, Unincorporated Riverside County, CA		
Site code or identifier: N/A	Assessor(s): Lesley Lokovic and David Smith	
Waterway name: Unnamed drainage feature (referred to herein as Tributary A-2)		Visit date: September 15, 2023
Current weather conditions (check one) ☐ Storm/heavy rain ☐ Steady rain ☐ Intermittent rain ☐ Snowing ☐ Cloudy (___ % cover) X Clear/Sunny	Notes on current or recent weather conditions (e.g., precipitation in previous week): Clear; no precipitation in previous week	Coordinates at downstream end (decimal degrees): Lat (N): 33.867582 Long (W): -117.425707 Datum: NAD 1983
Surrounding land-use within 100 m (check one or two): X Urban/industrial/residential ☐ Agricultural (farmland, crops, vineyards, pasture) ☐ Developed open-space (e.g., golf course) ☐ Forested X Other natural – undeveloped land ☐ Other: _____	Describe reach boundaries: The reach boundary (the assessment area) is the central portion of Tributary A-2 that occurs within the Project site. The reach extends northwesterly through the north-central portion of the Project site for approximately 200 meters. Vegetation observed in the Drainage A assessment area include FAC or drier species. No hydrophytes (FACW or OBL) were observed in the assessment area.	
Mean channel width (m) 1 m	Reach length (m): 40x width; min 40 m; max 200 m. 200 m	Enter photo ID, or check if completed Top down: _____ Mid down: _____ Mid up: _____ Bottom up: _____ X See photo exhibit.
Disturbed or difficult conditions (check all that apply): ☐ Recent flood or debris flow ☐ Stream modifications (e.g., channelization) ☐ Diversions ☐ Discharges ☐ Drought ☐ Vegetation removal/limitations ☐ Other (explain in notes) X None	Notes on disturbances or difficult site conditions:	
Observed hydrology: ___0___ % of reach with surface flow ___0___ % of reach with sub-surface or surface flow ___0___ # of isolated pools	Comments on observed hydrology: No surface water or saturation detected. Changes in soil characteristics observed in the channel.	

Site sketch:

Aerial view of Tributary A-2 (200m) Assessment Area Reach. Google Earth 2023.

1. Hydrophytic plant species

Record up to 5 hydrophytic plant species (FACW or OBL in the **Arid West** regional wetland plant list) within the assessment area: **within the channel or up to one half-channel width**. Explain in notes if species has an odd distribution (e.g., covers less than 2% of assessment area, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID, or check if photo is taken.

Check if applicable: ☐ No vegetation in assessment area X No hydrophytes in assessment area

Species	Odd distribution?	Notes	Photo ID

Notes on hydrophytic vegetation: N/A. No hydrophytes in assessment area and little to no vegetation in assessment area.

2 and 3. Aquatic invertebrates

2. How many aquatic invertebrates are quantified in a 15-minute search?

Number of individuals quantified:
X None
☐ 1 to 19
☐ 20 +

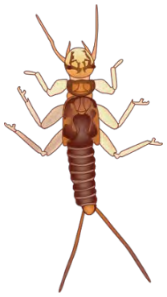
(Do not count mosquitos)

Photo ID:_____

3. Is there evidence of aquatic stages of EPT (Ephemeroptera, Plecoptera and Trichoptera)?

Yes / No

Ephemeroptera larva
Image credit: Dieter Tracey



Plecoptera larva
Tracey Saxby

Trichoptera larva
Tracey Saxby

Notes on aquatic invertebrates:

4. Algal Cover

Are algae found on the streambed? ☐ Check if *all* observed algae appear to be deposited from an upstream source.	X Not detected ☐ Yes, < 10% cover ☐ Yes, ≥ 10% (check Yes in single indicator below)	Notes on algae cover:	Photo ID:

5. Are single indicators observed?

Indicator	Present	Notes	Photo ID
Fish	☐ Yes X No, no fish ☐ No, only non-native mosquitofish		
Algae cover ≥ 10%	☐ Yes X No		

Supplemental information E.g., aquatic or semi-aquatic amphibians, snakes, or turtles; iron-oxidizing bacteria and fungi; etc.

Some moss <5% observed along shaded channel banks in the assessment area

Photo log

Indicate if any other photos taken during the assessment

Photo ID	Description
Jurisdictional Delineation Report 2023, Exhibit 5	See representative photos *, *, *, and *.

Additional notes about the assessment:

The Antecedent Precipitation Tool (APT) data for the date of the field visit (09/15/2023) shows that the visit was conducted during the dry season and normal conditions apply to this timeframe. The Tributary A-2 assessment area was observed to be completely dry during the jurisdictional delineation conducted in September 2023.

The results of this form indicate an ephemeral conclusion due to an absence of hydrophytes, an absence of aquatic invertebrates, absence of EPT taxa, absence of algae, and absence of single indicators.

The results of the APT data and the information contained herein support the determination of an ephemeral streamflow duration for Tributary A-2 as depicted on Exhibit 3A of the jurisdictional delineation report. These results are also representative of two small tributary segments associated with

the up- and downstream reaches of Drainage B within the Project site as depicted on Exhibit 3A of the jurisdictional delineation report.

Classification: __Ephemeral_____

1. Hydrophytic plant species	2. Aquatic invertebrates	3. EPT taxa	4. Algae	5. Single indicators • fish present • algae cover ≥ 10%	Classification
None	None	Absent	Absent	Absent	**Ephemeral**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
	Few (1-19)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present	Absent	**Need more information**
				Present	**At least intermittent**
		Present			**At least intermittent**
Few (1-2)	**None**	**Absent**	**Absent**	**Absent**	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present			**At least intermittent**
	Many (20+)	Absent	Absent		**Intermittent**
			Present		**At least intermittent**
		Present	Absent		**At least intermittent**
			Present		**Intermittent**
Many (3+)	None	Absent	Absent	Absent	**Need more information**
				Present	**At least intermittent**
			Present		**At least intermittent**
	Few (1-19)	Absent			**At least intermittent**
		Present			**Perennial**
	Many (20+)	Absent			**At least intermittent**
		Present			**Perennial**

Shading provided to enhance readability by increasing the contrast between neighboring cells; empty cells indicate the classification will not change with additional information however it is recommended that all five indicators be measured and recorded during every assessment.

APPENDIX B

BIOLOGICAL TECHNICAL REPORT

FOR THE

GREEN TREE PROJECT

LOCATED IN UNINCORPORATED RIVERSIDE COUNTY, CALIFORNIA

Prepared For:

Adkan Engineers
6879 Airport Drive
Riverside, California 92504
Contact: Mitch Adkison
Phone: (951) 688-0241

Prepared By:

Glenn Lukos Associates, Inc.
1940 E. Deere Avenue, Suite 250
Santa Ana, California 92705
Phone: (949) 837-0404
Report Preparer: Jason Fitzgibbon

March 2024

INFORMATION SUMMARY

A. Report Date: March 20, 2024

B. Report Title: Biological Technical Report for the Green Tree Project

C. Project Site Location: The Green Tree Project (Project site) in unincorporated Riverside County comprises approximately 98.59 acres as depicted on the U.S. Geological Survey (USGS) topographic map Lake Mathews, California. The Project site is bordered by the Citrus Heights residential development to the north, rural lands and El Sobrante Rd. to the south, agricultural lands to the east, and disturbed rural and residential lands to the west.

D. Owner/Applicant:
Mitch Adkison, Principal
Adkan Engineers
6879 Airport Drive
Riverside, California 92504
Phone: (951) 688-0241
Email: madkinson@adkan.com

E. Principal Investigator:
Glenn Lukos Associates, Inc.
1940 E. Deere Avenue, Suite 250
Santa Ana, California 92705
Phone: (949) 837-0404
Report Preparer: Jason Fitzgibbon

F. Report Summary:

This report describes the current biological conditions for the Green Tree Project and evaluates impacts to biological resources from development of the Project.

The proposed 98.59-acre Project is located within unincorporated Riverside County, California. During spring and summer 2023 Glenn Lukos Associates, Inc. (GLA) biologists/regulatory specialists conducted general biological and site-specific surveys, including focused surveys for burrowing owl (*Athene cunicularia*), least Bell's vireo (*Vireo bellii pusillis*) and Crotch's bumblebee (*Bombus crotchii*). Biological surveys included habitat assessments for special status plant species and animal species. In addition, GLA conducted vegetation mapping, focused plant surveys, and an evaluation of federal and state jurisdictional waters.

The proposed Project will impact waters subject to United States Army Corps of Engineers (Corps) jurisdiction, Regional Water Quality Control Board (Regional Board) jurisdiction, and California Department of Fish and Wildlife (CDFW) jurisdiction. The proposed Project will also result in impacts to MSHCP Riparian/Riverine areas.

G. Individuals Conducting Fieldwork:

Jason Fitzgibbon, Jeff Ahrens, Joseph Vu, Lesley Lokovic, Stephanie Cashin, Jillian Stephens, David Smith, and Wanisa Jaikwang

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1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general biological surveys and focused biological surveys for the approximately 98.59 acres (95.19 acres onsite and 3.40 acres offsite) Green Tree Project (the Project) located in unincorporated Riverside County, California. This report identifies and evaluates impacts to biological resources associated with the proposed Project in the context of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), the California Environmental Quality Act (CEQA), and State and Federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), and the California Fish and Game Code.

The scope of this report includes a discussion of existing conditions for the approximately 98.59-acre Project site, all methods employed regarding the general biological surveys and focused biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), and an analysis of impacts to biological resources. Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA and MSHCP requirements, including (1) general reconnaissance survey and vegetation mapping; (2) general biological surveys; (3) habitat assessments for special-status plant species (including species with applicable MSHCP survey requirements); (4) habitat assessments for special-status wildlife species (including species with applicable MSHCP survey requirements); (5) assessment for the presence of wildlife migration and colonial nursery sites; (6) assessments for MSHCP riparian/riverine areas and vernal pools; and (7) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act, State Water Quality Control Board pursuant to Section 401 of the Clean Water Act, and CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600–1616 of the California Fish and Game Code. Observations of all plant and wildlife species were recorded during the biological studies and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

1.2 Project Location

The Project site comprises approximately 98.59 acres (95.19 acres onsite and 3.40 acres offsite) in unincorporated Riverside County, California [Exhibit 1–Regional Map] and is located at latitude 33.866089 and longitude -117.429064 (approximate center coordinates) within Section 31 and 32 of Township 3 South, Range 5 West of the United States Geological Survey (USGS) 7.5-minute quadrangle topographic map Lake Mathews, California [Exhibit 2–Vicinity Map].

The Project site is bordered by the Citrus Heights residential development to the north, rural lands and El Sobrante Rd. to the south, agricultural lands to the east, and disturbed rural and residential lands to the west.

The Project site includes four Assessor Parcel Numbers (APNs): 270-070-005, 270-070-006, 270-070-007, 270-160-005. Offsite improvement areas occur within APNs 270-160-020, 270-160-021, and 270-160-018 and within the right-of-way for El Sobrante Road. Development of the Project will result in 84.78 acres of permanent grading impacts to accommodate the proposed residential development and associated infrastructure.

1.3 Project Description

The Project (TTM 38605) proposes to subdivide approximately 98.59 Acres into 163 single-family residential lots [Appendix E – Site Plan]. The Project is located to the east of McAllister Road and Highland Grove 1, a single-family residential community currently under construction. The Project lies to the south of the Citrus Heights and Tramonte communities, to the North of El Sobrante and to the West of Cambria Court and Vista Del Lago Drive. The Project lies within the El Sobrante Area policy and has a proposed change of Zone from A-1-10 to R-1-10,000 allowing the lot sizes and standards to be consistent with the allowed density under the General Plan and policy area. The Project has been designed to avoid and protect the drainage courses along the northerly, easterly, westerly boundaries and a portion of the southerly boundary, impacting those drainage areas only where needed to provide access and utilities as described below. The Project has also been designed to protect the existing ridgeline to the south of the Project site. Project amenities include a 2.14-acre park site and approximately 0.83 miles of public trails joining the Citrus Heights community to the Project and to El Sobrante. The Project also includes three water quality and storm detention basins to treat site runoff before discharging to the pre-existing flow paths at the drainage courses along the Project perimeter.

The first of the two proposed crossings discussed above is at the offsite Street A which is the Project's main point of connection to El Sobrante. This road section is in accordance with Riverside County standard 104 Section A from the Project site to the offsite entry road that leads to El Sobrante. At the crossing, street A is 44-foot pavement from curb face to curb face and 66-foot right of way, in accordance with Riverside County Standard 104. This section allows for parking on both sides of the road and one lane of travel in each direction. The 60-foot section includes a public trail on the Westerly side. The crossing will include a headwall at the upstream end collecting the drainage flows from the East side of the drainage course into a 72-inch Reinforced Concrete Pipe Culvert approximately 198 linear feet and discharging the flows downstream through a headwall to a rip rap pad for velocity dissipation to the downstream end of the drainage course on the West side of the road. This culvert crossing has been sized for an anticipated approximately 632.91 CFS in the 100-year rational storm event.

The second of the two crossings occurs at the north side of the Project through an emergency ingress/egress access road to the existing Travertine Avenue with the Tramonte Community. This crossing receives an anticipated approximately 310.44 CFS from the upstream east side of the culvert during the 100-year ration storm event through an inlet headwall, through the 54-inch reinforced concrete pipe culvert approximately 158 feet long and outlets to the downstream, west

side of the culvert over an energy dissipating rip rap pad to the natural drainage course. The emergency access road includes 24-feet of AC Pavement for the emergency access road and a multipurpose access trail connecting the public trail system within Tramonte and Citrus Heights to the Project Park and to El Sobrante Road.

1.4 Relationship of the Project Site to the MSHCP

1.4.1 MSHCP Background

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats.

Through agreements with the U.S. Fish and Wildlife Service (USFWS) and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts to these species for Projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements in order for these species to ultimately be considered "adequately conserved". A number of these species have survey requirements based on a project's occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP *Volume I, Section 6.1.2*). An additional 28 species (MSHCP *Volume I*, *Table 9.3*) not yet adequately conserved have species-specific objectives in order for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands targeted within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and ungrouped, independent Cell has designated "criteria" for the purpose of targeting additional conservation lands for acquisition. Projects located within the Criteria Area are subject to the

Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if lands are targeted for inclusion in the MSHCP Reserve. In addition, all Projects located within the Criteria Area are subject to the Joint Project Review (JPR) process, where the Project is reviewed by the Regional Conservation Authority (RCA) to determine overall compliance/consistency with the biological requirements of the MSHCP.

1.4.2 Relationship of the Project Site to the MSHCP

The Project site is located within the Lake Mathews/Woodcrest Area Plan and Gavilan Habitat Management Unit of the MSHCP, but it is not located within the MSHCP Criteria Area [Exhibit 4 – MSHCP Map] or the MSHCP Criteria Area Plant Species Survey Area (CAPSSA). The Project site is also not located within the MSHCP Mammal or Amphibian Survey Areas, or Core and Linkage areas, or the MSHCP Narrow Endemic Plant Species Survey Area (NEPSSA). The Project site is located within the MSHCP Burrowing Owl Survey Area [Exhibit 4 – MSHCP Map]. Pursuant to the MSHCP, the following target species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): burrowing owl (*Athene cunicularia*).

Within the designated Survey Areas, the MSHCP requires habitat assessments, and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP. Findings of equivalency shall be made demonstrating that the 90-percent standard has been met, if applicable. If equivalency findings cannot be demonstrated, then "biologically equivalent or superior preservation" must be provided.

2.0 METHODOLOGY

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

- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), CDFW, and MSHCP riparian/riverine areas and vernal pools policy;
- Performance of vegetation mapping for the Project site;
- Performance of habitat assessments, and site-specific biological surveys, to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA and the MSHCP;
- Performance of a focused survey for rare plants; and
- Performance of a focused survey for burrowing owl.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDB) (CDFW 2023), CNPS 9th edition online

inventory (CNPS 2023), Natural Resource Conservation Service soil data (NRCS 2023), MSHCP species and habitat maps and sensitive soil maps (Dudek 2003), other pertinent literature, and knowledge of the region. Site-specific general surveys within the Project site were conducted on foot in the proposed development areas for each target plant or animal species identified below as well as in the avoided open space. Table 2-1 provides a summary list of survey dates, survey types and personnel.

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

Survey Type	2023 Survey Dates	Biologist(s)
General Biological Survey	03/06, 03/09, 03/14	JA, JS, WJ
Vegetation/Land-Use Land-Cover Mapping	03/06	JS, WJ
Evaluation of MSHCP Riparian/Riverine Areas	09/15	LLG
Evaluation of MSHCP Vernal Pools and Fairy Shrimp Habitat	03/06, 03/09, 03/14	JA, WJ
Delineation of Federal and State Jurisdictional Waters	09/15	LLG
Special-Status Plant Surveys	03/06, 04/04, 5/26	JS, WJ, JF, SC
Crotch Bumble Bee	04/04, 05/04, 05/25	JA, JF, SC
Burrowing Owl	03/09, 03/23, 04/05, 04/21, 04/24, 05/12, 05/26, 06/01	JA, DS, JF, JV
Least Bell's Vireo	04/21, 05/02, 05/15, 05/25, 06/06, 06/26, 07/07, 08/19	JA, JF, JV
Special-Status Bat Surveys	04/24, 06/01	JA, SC

LLG = Lesley Lokovic Gamber; DS = David Smith, JF = Jason Fitzgibbon; JA = Jeff Ahrens; JV = Joseph Vu; WJ = Wanisa Jaikwang; SC = Stephanie Cashin; JS = Jillian Stephens

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

- Listing through the Federal and/or State Endangered Species Act (ESA); and/or
- CNPS Rare Plant Inventory Rank 1A, 1B, 2A, 2B, 3, or 4.

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

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

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

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

2.1 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project site, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Project site; (3) general field reconnaissance survey(s); (4) vegetation mapping according to the List of Vegetation Alliances and Associations; and (5) habitat assessments and focused surveys for special-status plants.

2.1.1 Literature Search

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

- California Native Plant Society, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v9.5) (CNPS 2023); and

- CNDDB for the USGS 7.5′ quadrangle(s): Lake Mathews, Steele Peak, Riverside East, Lake Elsinore, Corona North, Corona South, Riverside West, Santiago Peak, and Alberhill (CDFW 2023).

2.1.2 Vegetation Mapping

Vegetation communities within the Project site were mapped according to the List of Vegetation Alliances and Associations (or Natural Communities List). The list is based on A Manual of California Vegetation, Second Edition or MCVII, which is the California expression of the National Vegetation Classification. Where necessary, deviations were made when areas did not fit into exact vegetation descriptions. These vegetation communities were named based on the dominant plant species present. Plant communities were mapped in the field directly onto a 400-scale (1”= 400’) aerial photograph.

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

A literature search was conducted to obtain a list of special-status plants with the potential to occur within the Project site. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (2023) and the MSHCP (Dudek 2003). The Project is not located within NEPSSA and/or CAPSSA.

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Project site were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) identify the potential for any special-status plants that may occur within the Project site; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Project site, if applicable.

2.1.4 Botanical Surveys

GLA biologists Jillian Stephens and Wanisa Jaikwang conducted focused surveys for special-status plants on March 6, 2023, Jason Fitzgibbon and Stephanie Cashin conducted a second round of surveys on April 4, 2023, and a third and final round of surveys was conducted on May 26, 2023 by Jason Fitzgibbon. Survey(s) were conducted in accordance with accepted botanical survey guidelines (CDFW 2018, CNPS 2001, Nelson 1984, USFWS 2000). As applicable, survey(s) were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Survey(s) were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field survey(s) were identified and recorded following the above-referenced guidelines. A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al. (2012), and Munz (1974).

2.2 Wildlife Resources

Wildlife species were evaluated and detected during the field survey(s) by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Project site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit(s). A complete list of wildlife species observed within the Project site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFW 2016), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians 6th Edition, Collins and Taggart (2009) for amphibians and reptiles, and the American Ornithological Society Checklist of Middle and North American Birds (Chesser et al. 2022) for birds. The methodology (including any applicable survey protocols) utilized to conduct general survey(s), habitat assessment(s), and/or focused surveys for special-status animals are included below.

2.2.1 General Surveys

Birds

During the general biological and reconnaissance survey within the Project site, birds were identified incidentally within each habitat type. Birds were detected by both direct observation and by vocalizations and were recorded in field notes.

Mammals

During general biological and reconnaissance survey within the Project site, mammals were identified incidentally within each habitat type. Mammals were detected both by direct observations and by the presence of diagnostic sign (i.e. tracks, burrows, scat, etc.).

Reptiles and Amphibians

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

2.2.2 Special-Status Animal Species Evaluated for the Project Site

A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Project site. Species were evaluated based on three factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in vicinity of the Project site, (2) species survey areas as identified by the MSHCP for the Project site; and 3) any other special-status animals that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project site.

2.2.3 Habitat Assessment for Special-Status Animal Species

GLA biologist(s) Jeff Ahrens, Jason Fitzgibbon and Wanisa Jaikwang conducted habitat assessments for special-status animal species on March 3, March 9, and March 14, 2023. An aerial photograph, soil map and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project site.

2.2.4 Focused Surveys for Special-Status Animals Species

Burrowing Owl

The Project site is located within the MSHCP survey area for the burrowing owl (*Athene cunicularia*). GLA biologist(s) Jeff Ahrens, David Smith, Jason Fitzgibbon, and Joseph Vu conducted focused surveys for the burrowing owl for all suitable habitat areas within the Project site. Surveys were conducted in accordance with survey guidelines described in the 2006 MSHCP Burrowing Owl Survey Instructions. The Project site was divided into two survey polygons, to ensure that all areas of suitable habitat could be adequately covered during the time allotted per the Burrowing Owl Survey Instructions. The guidelines stipulate that four focused survey visits be conducted on separate dates between March 1 and August 31 for each survey polygon. Within areas of suitable habitat, the MSHCP first requires a focused burrow survey to map all potentially suitable burrows. The focused burrow survey was conducted on March 3 and

9, 2023 for Survey Polygon A and Survey Polygon B, respectively. Focused burrowing owl surveys were conducted on the dates noted in Table 2-1 below. The burrowing owl survey visits need to be conducted from one hour prior to sunrise to two hours after sunrise or two hours before sunset to one hour after sunset.

Both the burrow and owl surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign and not during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Additionally, all work was performed more than 5 days after a rain event. Refer to Table 2-1 in Section 2.0 for survey condition details.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Exhibit 6 identifies the burrowing owl survey polygons at the Project site. Transects were spaced between 22 feet and 65 feet apart, adjusting for vegetation height and density, to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 320 feet along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. Transect locations are provided on Exhibit 6, along with the 500-foot buffer area. Table 2-2 summarizes the burrowing owl survey visits. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

Table 2-2. Summary of Burrowing Owl Surveys

Survey Date	Biologist(s)	Survey Period Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover (%)
Survey Polygon A					
03/09/2023	JA	0550/0900	42/58	2/5	20/20
04/05/2023	DS	0630/0830	57/63	2/3	None
04/24/2023	JA	1620/1930	69/64	0/1	None
06/01/2023	JA	1730/1930	65/63	0/2	100/90
Survey Polygon B					
03/23/2023	JA	0610/0900	44/45	4/5	100/100
04/05/2023	DS	0630/0830	57/63	0/2	None
05/12/2023	JV	0550/0745	50/57	5/7	100/10
05/26/2023	JF	1810/2020	68/62	2/4	50/25

JA = Jeff Ahrens, JF= Jason Fitzgibbon, DS = David Smith; JV, Joseph Vu

Crotch's Bumble Bee

GLA biologists Jeff Ahrens, Stephanie Cashin and Jason Fitzgibbon performed focused surveys for the Crotch's bumble bee (*Bombus crotchii*; CBB) within suitable habitat areas within the Project site during the 2023 survey period. Surveys followed a protocol developed by GLA, which largely encompasses the CBB flight season (March to September) when the queen, daughters, males, and new queens are generally active. Surveys are preferably spaced out throughout the flight season to take advantage of different blooming periods and floral resources.

The survey protocol recommends conducting three focused survey visits during the flight season, beginning within the three acres of habitat that contain the highest quality floral resources per every 50 acres of potential suitable habitat.

During each focused survey, two sampling approaches were implemented. During the first phase, the surveyor conducted one hour of visual survey effort within the three-acre flowering area identified as supporting the highest quality habitat as determined by the surveyor. If CBB were not detected during the first hour of searching, a second hour of survey effort was conducted. During the second hour, the surveyor could either choose to resurvey the same flowering area (if any *Bombus* species are detected prior) or the surveyor could choose to conduct a second hour of searching within another high quality three-acre flowering area on site. If CBB were not detected during the second hour of the survey effort, the second survey phase was implemented, in which the surveyor surveyed the best additional flowering areas throughout the site, as deemed appropriate. The surveyor scanned suitable flowering areas for bumble bee activity and focused on those areas. Minimal time was spent in lesser quality habitat. Depending on the size of the habitat area, the opportunistic survey effort generally did not exceed one hour. In addition, GLA biologists documented any bumble bee activity incidentally observed during all other biological surveys.

Pursuant to the survey guidelines, the surveys were conducted between an hour after sunrise up until two hours before sunset, during times when weather conditions during the surveys are conducive to a high level of bee activity. Table 2-3 summarizes the Crotch's bumble bee survey visits. The results of the Crotch's bumble bee surveys are documented in Section 4.0 of this report.

Table 2-3. Summary of Crotch's Bumble Bee Surveys

Survey Date	Biologist	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Start/End Cloud Cover (%)
4/4/2023	JF/SC	0700/1045	58/62	0/3	100/60
5/4/2023	JA	1100/1405	51/56	2/6	60/60
5/25/2023	JA	0915/1215	61/66	1/4	80/80

JF = Jason Fitzgibbon, JA = Jeff Ahrens, SC = Stephanie Cashin

Least Bell's Vireo

GLA biologist(s) Jeff Ahrens, Jason Fitzgibbon and Joseph Vu conducted focused surveys for the least Bell's vireo (*Vireo bellii pusillus*) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 2001 USFWS survey guidelines, which stipulate that eight surveys should be conducted between April 10 and July 31, with a minimum of ten days separating each survey visit.

Focused surveys were conducted on the dates provided on Table 2-4. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 11:00 a.m. Weather conditions

during the surveys were conducive to a high level of bird activity. The results of the vireo surveys are documented in Section 4.0 of this report.

Table 2-4. Summary of Least Bell's Vireo Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover
04/21/2023	JV	0645/1100	57/70	0-2	None
05/02/2023	JV	0630/1045	50/64	4-6	100/40
05/15/2023	JA	0600/0900	55/64	1-3	20/20
05/25/2023	JA	0550/0915	55/61	2-4	100/80
06/06/2023	JV	0600/1020	54/66	0-4	100/50
06/26/2023	JA	0555/0930	54/68	1-4	50/30
07/07/2023	JF	0654/1045	59/85	4-7	None
08/19/2023	JF	0645/1045	68/83	2-4	None

JV = Joseph Vu, JA = Jeff Ahrens, JF = Jason Fitzgibbon

Special-Status Bats

GLA biologists Jeff Ahrens and Stephanie Cashin conducted focused bat surveys within areas of suitable habitat identified within the Project site. Focused surveys were conducted on April 24 and June 1, 2023.

Bat surveys were comprised of a combination of acoustic and emergence surveys and focused on detecting potential roosting areas (day and night) that included, but were not limited to, rocky outcroppings, palm trees, eucalyptus trees, and riparian vegetation. Potential roosting areas were inspected visually for evidence of roosting that included urine staining, guano concentrations, and/or audible bats. A Seek Compact Pro Thermal imager attached to an iPhone or iPad was used to assist in detecting heat signatures of bats within and exiting from potential roost areas.

Four ultrasonic acoustic recording devices were deployed throughout the bat Study area. Recording devices included two Pettersson M500-384 microphones attached to two Microsoft Surface Pros running Sonobat Live recording software, and also included two Wildlife Acoustics EchoMeter 2 Pro microphones attached to an Apple iPad.

All acoustic data was recorded in full spectrum and was processed and analyzed with Sonobat 4.2.2 bat call analysis software using the California Southwest classifier. All acoustic calls were manually reviewed and vetted using multiple Sonobat acoustic reference libraries and reference materials including Echolocation Call Characteristics of California Bats (Humboldt State University, 2018) and Echolocation Call Characteristics of Western U.S. Bats (Humboldt State University, 2018). Table 2-5 summarizes the focused bat survey visits.

Table 2-5. Summary of Focused Bat Surveys

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover
04/24/2023	JA/SC	1620/2230	69/59	4-7/4-7	None
06/01/2023	JA/SC	1730/2230	65/61	2-4/2-4	100/90

JA = Jeff Ahrens, SC = Stephanie Cashin

2.3 Jurisdictional Waters

The Project was delineated to identify the limits of jurisdictional waters, including waters of the U.S. (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and waters of the State (including riparian vegetation) subject to the jurisdiction of CDFW. Prior to beginning the field delineation, a 200-scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/CDFW jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Potential wetland habitats at the subject site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[1] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement)[2]. The presence of an Ordinary High Water Mark (OHWM) was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States[3] in conjunction with the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.[4] While in the field the limits of the OHWM, wetlands (if applicable), and CDFW jurisdiction were recorded using GPS technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets.

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

Volume I, Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area

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

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

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

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

are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as *lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to or which depend upon soils moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The MSHCP defines vernal pools as *seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.

GLA surveyed the Project site for riparian/riverine areas and vernal pool/seasonal pool habitat, including features with the potential to support fairy shrimp. To assess for vernal/seasonal pools (including fairy shrimp habitat), GLA biologists evaluated the topography of the site, including whether the site contained depressional features/topography with the potential to become inundated; whether the site contained soils associated with vernal/seasonal pools; and whether the site supported plants that suggested areas of localized ponding. The site was evaluated on multiple occasions during the 2023 rainfall season, including March 6, 9, and 14, 2023.

3.0 REGULATORY SETTING

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

3.1 Endangered Species Acts

3.1.1 California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to

become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Section 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

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

3.1.3 State and Federal Take Authorizations

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

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the

action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.
- In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.1.4 Take Authorizations Pursuant to the MSHCP

The Western Riverside County MSHCP was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the federal and state wildlife agencies and participating entities. The MSHCP is a comprehensive habitat conservation-planning program for western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the MSHCP, and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species pursuant to Section 10(a) of the FESA.

Through agreements with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), the MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through project participation with the MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. As noted above, project-specific survey requirements exist for species designated as "Covered Species not yet adequately conserved". These include Narrow Endemic Plant Species, as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species identified by the Criteria Area Species Survey Areas (CASSA); animal species as identified by survey area; and plant and animal species associated with riparian/riverine areas and vernal pool habitats (*Volume I, Section 6.1.2* of the MSHCP document).

For projects that have a federal nexus such as through federal Clean Water Act Section 404 permitting, take authorization for federally listed covered species would occur under Section 7 (not Section 10) of FESA and that USFWS would provide a MSHCP consistency review of the proposed

project, resulting in a biological opinion. The biological opinion would require no more compensation than what is required to be consistent with the MSHCP.

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

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

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

Federally Designated Special-Status Species

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

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

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

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511,

respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

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

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

CNDDB Global/State Rankings

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

Global Rankings

- G1 – Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or because of some factor(s) making it especially vulnerable to extinction.
- G2 – Imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range.
- G3 – Either very rare and local throughout its range (21 to 100 occurrences) or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or because of some other factor(s) making it vulnerable to extinction throughout its range.
- G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 – Common, widespread and abundant.

State Rankings

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

California Native Plant Society/CNDDB California Rare Plant Ranks

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

Table 3-1. California Rare Plant Ranks 1, 2, 3, & 4, and Threat Code Extensions

CRPR	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.

CRPR	Comments
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the "Inventory" and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	**Comments**
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 Jurisdictional Waters

3.3.1 Army Corps of Engineers

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

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

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

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;
(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

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

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

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

Wetland Definition Pursuant to Section 404 of the Clean Water Act

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

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

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

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

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

3.3.2 Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[5] and waters of the state. Waters of the United States are defined above in Section II.A and waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

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

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

State Wetland Definition

The Water Boards define an area as wetland[6] as follows: "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

The following wetlands are waters of the state:

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

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

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

[6] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. [For Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California].
[7] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.
[8] Artificial wetlands are wetlands that result from human activity.

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

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

3.3.3 California Department of Fish and Wildlife

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

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

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

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

4.0 RESULTS

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

4.1 Existing Conditions

The Project site occurs near existing residential development to the north, east and west, and vacant land immediately to the south. The Project site is comprised of vacant and disturbed land that functioned as a citrus operation until the early 2000's. Evidence of site disturbance includes compacted soils, erosional areas, debris piles, and various dirt roads. Elevation ranges from approximately 1,425 feet above mean sea level (AMSL) to 1,235 feet AMSL. The following vegetation types occur in the Project site: Red Brome Grasslands, Brittle Bush Scrub, Disturbed/Developed Land, Four Wing Saltbush Scrub, Pepper Tree Groves, Goodding's Willow Riparian Woodland, Eucalyptus Groves, and Mulefat Thickets.

A total of four drainage features extend across the Project site in a general north/northwest direction before continuing offsite towards the neighboring Citrus Heights development, and eventually the Gage Canal, which. is a man-made irrigation canal that is a distributary of the Santa Ana River. The drainages at the Project site range from ephemeral to intermittent within portions containing perennial seeps, and are described herein as Drainage A, Tributary A-1, Tributary A-2, and Drainage B.

As depicted on Exhibit 8 [Soils Map], the National Cooperative Soil Survey (NCSS) has identified the following soil types as occurring (currently or historically) within the Project site: Cajalco fine sandy loam, 8-15 percent slopes, eroded; Cajalco fine sandy loam, 15-35 percent slopes, eroded; Cajalco rocky fine sandy loam, 15-50% slopes, eroded; Buren fine sandy loam, 2-8 percent slopes, eroded; Fallbrook sandy loam, 8-15% slopes, eroded; and Las Posas loam, 2-8 percent slopes.

4.2 Vegetation Mapping

The following vegetation/land use types are present: *Atriplex canescens* Shrubland Alliance (Four Wing Saltbush Scrub); *Baccharis salicifolia* Shrubland Alliance (Mulefat Thickets); *Bromus rubens* Herbaceous Semi-Natural Alliance (Red Brome Grasslands); *Encelia farinosa* Shrubland Alliance (Brittlebush Scrub); *Eucalyptus* spp. Woodland Alliance (Eucalyptus Groves); *Salix gooddingii* Woodland Alliance (Goodding's Willow Riparian Woodland); *Schinus molle* Woodland Semi-Natural Alliance (Pepper Tree Groves); and Disturbed/Developed Land. Table 4-1 summarizes the vegetation/land use types and their corresponding acreages. Descriptions of each vegetation type follow the tables. A Vegetation Map is included as Exhibit 5.

Table 4-1. Summary of Vegetation/Land Use Types for the Project Site

Vegetation/Land Use Type	Onsite (Acres)	Offsite (Acres)	Project Site Total (Acres)
Atriplex canescens Shrubland Alliance (Four wing saltbush scrub)	5.16	0.04	5.20
Baccharis salicifolia Shrubland Alliance (Mulefat thickets)	0.13	0.11	0.24
Bromus rubens Herbaceous Semi-Natural Alliance (Red brome grasslands)	77.87	0.49	78.36
Encelia farinosa Shrubland Alliance (Brittle bush scrub)	8.27	0.00	8.27
Eucalyptus spp. Woodland Semi-Natural Alliance (Eucalyptus groves)	0.33	0.00	0.33
Salix gooddingii Woodland Alliance (Goodding's willow riparian woodland)	0.42	0.09	0.51
Schinus molle Woodland Semi-Natural Alliance (Pepper tree groves)	0.35	0.00	0.35
Disturbed/Developed	2.67	2.67	5.34
Total	**95.19**	**3.40**	**98.59**
*Total acreage may not equal the sum of vegetation types due to rounding error.			

Atriplex canescens Shrubland Alliance (Four wing saltbush scrub)

The Project site supports 5.20 acres of four wing saltbush scrub. Of the 5.20 acres, 5.16 acres occurs in the northern portion of the site with small patches at the southwest and southeast corners of the site, and 0.04 acre occurs just offsite to the north contiguous with the saltbush at the northern site boundary. This alliance is dominated by the four-winged saltbush with limited non-native understory that includes summer mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*) and non-native grasses including red brome (*Bromus madritensis rubens*). Very few blue elderberries (*Sambucus nigra* ssp. *caerulea*) are also present.

Baccharis salicifolia Shrubland Alliance (Mulefat thickets)

The Project site supports approximately 0.24 acre, of which 0.11 acre is offsite. This alliance is dominated by mulefat (*Baccharis salicifolia*) and includes a limited amount of arroyo willow which comprises less than 20-percent of the relative vegetative cover. This alliance is also characterized by a relatively high prevalence of non-native species including tree tobacco (*Nicotiana glauca*), ornamental palms, and ruderal upland species.

Bromus rubens Herbaceous Semi-Natural Alliance (Red brome grasslands)

The Project site supports 78.36 acres of red brome grassland of which 0.49 acre occurs offsite; a total that accounts for over 80-percent of the land cover within the Project site. In addition to red

brome, this alliance supports ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), cultivated barley (*Hordeum vulgare*), summer mustard, London rocket, tree tobacco (*Nicotiana glauca*), and scattered individuals of four winged saltbush and blue elderberry.

***Encelia farinosa* Shrubland Alliance (Brittle bush scrub)**

The Project site supports 8.27 acres of brittle bush scrub dominated by brittle bush (*Encelia farinosa*), all of which occurs onsite. These areas are dominated by brittle bush (60-percent of the relative cover) with four wing saltbush accounting for the remaining shrub cover and an understory including summer mustard, red brome, ripgut brome, London rocket and other non-native grasses and herbs.

***Eucalyptus* spp. Woodland Semi-Natural Alliance (Eucalyptus groves)**

The Project site supports 0.33 acre of Eucalyptus Woodland along the southwest boundary of the site within Drainage B, all of which occurs onsite. This area comprises a small grove of eucalyptus woodlands consisting of blue gum (*Eucalyptus globulus*) mixed with non-native palms and a few black willows. This alliance occurs in the western portion of the site as a discrete grove.

***Salix gooddingii* Woodland Alliance (Goodding's willow riparian woodland)**

The site supports approximately 0.51 acre of black willow (*Salix gooddingii*) of which 0.09 acre is offsite. While the black willow is dominant in these areas with approximately 30-percent cover, this alliance also includes mulefat, tree tobacco, non-native palms, blue elderberry, and Peruvian pepper trees, particularly along the northern perimeter of the site within Drainage A.

***Schinus molle* Woodland Semi-Natural Alliance (Pepper tree groves)**

The Project site supports two patches of Peruvian pepper covering 0.35 acre, all of which is on site.

Disturbed/Developed

The Project site contains 5.34 acres (2.67 acres onsite, 2.67 acres offsite) of developed/disturbed lands that have been cleared, graded, paved, or otherwise altered by historical and ongoing (offsite) agricultural operations, use of offroad vehicles, or access road maintenance.

4.3 Special-Status Vegetation Communities

The CNDDB identifies the following nine special-status vegetation communities for the Lake Mathews, California and surrounding 7.5-minute quadrangle maps Steele Peak, Riverside East, Lake Elsinore, Corona North, Corona South, Riverside West, Santiago Peak, and Alberhill: canyon live oak ravine forest, Southern California arroyo chub/Santa Ana sucker stream, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern interior cypress forest, southern riparian forest, southern sycamore alder riparian woodland, southern willow scrub, and valley needlegrass grassland.

The Project site contains the following special-status vegetation types: Goodding's black willow forest (S3).

4.4 Special-Status Plants

No special-status plants were detected at the Project site. Table 4-2 provides a list of special-status plants evaluated for the Project site through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Project site, 2) applicable MSHCP survey areas, and 3) any other special-status plants that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs within the site.

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

Species Name	Status	Habitat Requirements	Occurrence
Brand's star phacelia *Phacelia stellaris*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Coastal dunes and coastal sage scrub.	Confirmed absent.
Buxbaum's sedge *Carex buxbaumii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Bogs and fens, Meadows and seeps (mesic) and marshes and swamps.	Does not occur. No suitable habitat.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Vernal pools	Does not occur. No suitable habitat.
California screw moss *Tortula californica*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Sandy soil in chenopod scrub, and valley and foothill grassland.	Confirmed absent.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Confirmed absent.
Chaparral nolina *Nolina cismontana*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Confirmed absent.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Confirmed absent.

Species Name	Status	Habitat Requirements	Occurrence
Chaparral rein orchid *Piperia cooperi*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, valley and foothill grassland.	Confirmed absent.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy soils in chaparral, coastal sage scrub.	Confirmed absent.
Cleveland's bush monkeyflower *Diplacus (Mimulus) clevelandii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP(f)	Gabbroic soils, often in disturbed areas, openings, rocky. Chaparral, cismontane woodland, lower montane coniferous forest.	Confirmed absent.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Playas, vernal pools, marshes and swamps (coastal salt).	Confirmed absent.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Often in burns in chaparral and coastal scrub.	Confirmed absent.
Engelmann oak *Quercus engelmannii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland.	Confirmed absent.
Fish's milkwort *Polygala cornuta* var. *fishae*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland.	Confirmed absent.
Hall's monardella *Monardella macrantha* ssp. *hallii*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: MSHCP	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland.	Confirmed absent.
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(d)	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Confirmed absent.
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Confirmed absent.
Intermediate monardella *Monardella hypoleuca ssp.intermedia*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: None	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes)	Confirmed absent.

Species Name	Status	Habitat Requirements	Occurrence
Little mousetail *Myosurus minimus* ssp. *apus*	Federal: None State: None CNPS: Rank 3.1 MSHCP: MSHCP(d)	Valley and foothill grassland, vernal pools (alkaline soils).	Does not occur. No suitable habitat.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Confirmed absent.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Confirmed absent.
Marsh sandwort *Arenaria paludicola*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: None	Bogs and fens, freshwater marshes and swamps.	Does not occur. No suitable habitat.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Confirmed absent.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands	Confirmed absent.
Narrow-petaled rein orchid *Piperia leptopetala*	Federal: None State: None CNPS: Rank 4.3 MSHCP: None	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest.	Does not occur. No suitable habitat.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub.	Confirmed absent.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Confirmed absent.
Palomar monkeyflower *Erythranthe (Mimulus) diffusa*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP	Sandy or gravelly soils in chaparral, lower montane coniferous forest.	Confirmed absent.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Confirmed absent.

Species Name	Status	Habitat Requirements	Occurrence
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Confirmed absent.
Payson's jewelflower *Caulanthus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Sandy or granitic soils in chaparral and coastal scrub.	Confirmed absent.
Peninsular spineflower *Chorizanthe leptotheca*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Alluvial fan, granitic. Chaparral, coastal scrub, lower montane coniferous forest.	Confirmed absent.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Confirmed absent.
Rainbow manzanita *Arctostaphylos rainbowensis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Chaparral	Does not occur. No suitable habitat.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3 MSHCP: Not covered	Chaparral, coastal sage scrub	Confirmed absent.
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	Federal: FE State: SE CNPS: Rank 1B.2	Coastal dune, coastal salt marshes and swamps.	Does not occur. No suitable habitat.
Salt Spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: Not covered	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur. No suitable habitat.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur. No suitable habitat.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Confirmed absent.
San Diego County viguiera *Viguiera laciniata*	Federal: None State: None CNPS: Rank 4.3	Chaparral, coastal sage scrub.	Confirmed absent.

Species Name	Status	Habitat Requirements	Occurrence
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, valley and foothill grassland, vernal pools.	Confirmed absent.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Confirmed absent.
Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Does not occur. No suitable habitat.
Santa Monica dudleya *Dudleya cymosa ssp. ovatifolia*	Federal: FT State: None CNPS: Rank 1B.1 MSHCP: None	Chaparral, coastal sage scrub. Occurring on volcanic soils.	Confirmed absent.
Santiago Peak phacelia *Phacelia keckii*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: Not covered	Closed-cone coniferous forest, chaparral	Confirmed absent.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur. No suitable habitat.
Small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Cismontane woodland, coastal sage scrub, valley and foothill grassland, vernal pools. Occurring on clay soils.	Confirmed absent.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Confirmed absent.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Confirmed absent.
Southern California black walnut *Juglans californica*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces.	Confirmed absent.
Sticky dudleya *Dudleya viscida*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(f)	Coastal bluff scrub, chaparral, coastal sage scrub. Occurring on rocky soils.	Confirmed absent.

Species Name	Status	Habitat Requirements	Occurrence
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Chaparral.	Confirmed absent.
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Closed-cone coniferous forest, chaparral.	Does not occur. No suitable habitat.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Confirmed absent.
Vernal barley *Hordeum intercedens*	Federal: None State: None CNPS: Rank 3.2 MSHCP: MSHCP	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur. No suitable habitat.
Western spleenwort *Asplenium vespertinum*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Rocky soils in chaparral, cismontane woodland, and coastal scrub.	Confirmed absent.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Confirmed absent.
Woven-spored lichen *Texosporium sancti-jacobi*	Federal: None State: None CNPS: Rank 3 MSHCP: None	On soil, small mammal pellets, dead twigs, and on *Selaginella* spp. Chaparral (openings).	Does not occur. No suitable habitat.
Yucaipa onion *Allium marvinii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral (clay, openings).	Confirmed absent.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened

State
SE – State Endangered
ST – State Threatened

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

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

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land
Not Covered = Species not adequately conserved under MSHCP
None = Species not considered for conservation coverage under MSHCP

OCCURRENCE

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

4.4.1 Special-Status Plants Detected at the Project Site

No special-status plants were detected at the Project site. As noted, much of the site supported orchards, which have been removed, and the Project site has been converted to mostly non-native grasslands.

4.4.2 Special-Status Plants Not Detected but with a Potential to Occur at the Project Site

No special-status plants are expected to occur on the Project site due to the agricultural history, overall site disturbance and associated absence of suitable habitat for special-status plants.

4.5 Special-Status Animals

Three special-status animals were detected at the site including the state and federally listed endangered least Bell's vireo (*Vireo bellii pusillus*; FE; SE; MSHCP), western yellow bat (*Lasiurus xanthinus*; SSC, WBWG High Priority), and pocketed free-tailed bat (*Nyctinomops femorosaccus*; SSC; WBWG Medium Priority).

In addition, several special-status species were not observed but have potential to occur on-site including coastal whiptail (*Aspidoscelis tigris stejnegeri*; SSC; MSHCP), red-diamond rattlesnake (*Crotalus ruber*; SSC; MSHCP), loggerhead shrike (*Lanius ludovicianus*; SSC; MSHCP), and yellow warbler (*Setophagia petechia*; SSC; MSHCP).

Table 4-3 provides a list of special-status animals evaluated for the Project site through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project site, 2) applicable MSHCP survey areas, and 3) any other special-status animals that are known to occur within the vicinity of the Project site, for which potentially suitable habitat occurs on the site.

Table 4-3. Special-Status Animals Evaluated for the Project Site

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: SCE MSHCP: None	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Confirmed absent.
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None MSHCP: MSHCP	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines, and are known to disperse through disturbed habitats to reach suitable nectar plants.	Not expected to occur due to lack of suitable topography and host plant species.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None MSHCP: MSHCP(a)	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur. No suitable habitat present.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur. No suitable habitat present.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Santa Ana speckled dace *Rhinichthys osculus* ssp. *3*	Federal: None State: SSC MSHCP: Not Covered	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Does not occur. No suitable habitat present.
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None MSHCP: MSHCP	Small, shallow streams, less than 7 meters in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates.	Does not occur. No suitable habitat present.
Southern steelhead - southern California DPS *Oncorhynchus mykiss irideus*	Federal: FE State: None MSHCP: None	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur. No suitable habitat present.
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC MSHCP: MSHCP(c)	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur. No suitable habitat present.
Coast Range newt *Taricha torosa*	Federal: None State: SSC MSHCP: MSHCP	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Does not occur. No suitable habitat present.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Western spadefoot *Spea hammondii*	Federal: FPT State: SSC MSHCP: MSHCP	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur. No suitable habitat present.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC MSHCP: Not covered	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Not expected to occur.
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Not expected to occur. No native ant forage observed.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC MSHCP: Not covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Not expected to occur due to insularity of suitable habitat.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC MSCHP: MSHCP	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Potential to occur.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: SSC MSHCP: MSHCP	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Potential to occur.
San Diego banded gecko *Coleonyx variegatus abbotti*	Federal: None State: SSC MSHCP: MSHCP	Primarily a desert species, but also occurs in cismontane chaparral, desert scrub, and open sand dunes.	Not expected to occur.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: SSC MSHCP: Not Covered	Broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats that any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	Not expected to occur.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC MSHCP: Not Covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Not expected to occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Southwestern pond turtle *Emys marmorata*	Federal: FPT State: SSC MSHCP: MSHCP	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur.
Birds			
Bald eagle (nesting & wintering) *Haliaeetus leucocephalus*	Federal: Delisted State: SE, CFP MSHCP: MSHCP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Does not occur.
Burrowing owl *Athene cunicularia*	Federal: None State: SSC MSHCP: MSHCP(c)	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Not expected to occur. Not detected during focused surveys.
California black rail *Laterallus jamaicensis coturniculus*	Federal: BCC State: ST, CFP MSHCP: Not covered	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur.
Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	Federal: BCC State: SSC MSHCP: MSHCP	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Does not occur.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC MSHCP: MSHCP	Low elevation coastal sage scrub and coastal bluff scrub.	Not expected to occur due to lack of suitable habitat.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE MSHCP: MSHCP(a)	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	A single male was observed onsite and immediately offsite during focused surveys.
Loggerhead shrike (nesting) *Lanius ludovicianus*	Federal: BCC State: SSC MSHCP: MSHCP	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Potential to occur for foraging and nesting in grasslands and scrub habitats onsite.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Long-eared owl (nesting) *Asio otus*	Federal: None State: SSC MSHCP: Not covered	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Not expected to occur.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: SSC MSHCP: MSHCP	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Potential to occur for foraging. Not expected to nest onsite due to lack of contiguous, suitable nesting habitat.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	Federal: FE State: SE MSHCP: MSHCP(a)	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur.
Swainson's hawk (nesting) *Buteo swainsoni*	Federal: BCC State: ST MSHCP: MSHCP	Summer in wide open spaces of the American West. Nest in grasslands, but can use sage flats and agricultural lands. Nests are placed in lone trees.	Has potential to forage onsite when wintering. Does not nest onsite – outside known nesting range of the species.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: BCC State: CE, SSC MSHCP: MSHCP	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not nest onsite.
Western snowy plover (nesting) *Charadrius alexandrinus nivosus*	Federal: FT, BCC State: SSC MSHCP: Not covered	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Does not occur.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE MSHCP: MSHCP(a)	Dense, wide riparian woodlands with well-developed understories.	Does not occur.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: CFP MSHCP: MSHCP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Has potential to forage onsite. Not expected to nest onsite due to lack of suitable habitat.
Yellow rail *Coturnicops noveboracensis*	Federal: BCC State: SSC MSHCP: None	Shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields.	Does not occur.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Yellow warbler (nesting) *Setophaga petechia*	Federal: BCC State: SSC MSHCP: MSHCP	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Expected to occur in willow riparian and mulefat thickets onsite.
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: SSC MSHCP: MSHCP	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Not expected to occur. Not detected during focused least Bell's vireo surveys in suitable riparian habitat.
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC MSHCP: Not Covered	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Not expected to occur.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: MSHCP(c)	Fine, sandy soils in coastal sage scrub and grasslands.	Not expected to occur due to high levels of soil disturbance associated with past agricultural operations.
Pallid bat *Antrozous pallidus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Not detected during focused bat surveys.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC WBWG: M MSHCP: Not covered	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	One individual detected acoustically foraging onsite within riparian habitat of Drainage B during focused bat surveys. Not expected to roost onsite.
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: FE State: SSC MSHCP: MSHCP(c)	Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub.	Does not occur.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Does not occur. No middens observed in areas of suitable habitat.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC MSHCP: Not covered	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Not expected to occur due to high levels of soil disturbance associated with past agricultural operations.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Not expected to occur due to high levels of soil disturbance associated with past agricultural operations.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Not detected during focused bat surveys
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	One individual detected acoustically foraging along Drainage A. Based on the time of the detection, this species was likely roosting onsite.

STATUS

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

State
SE – State Endangered
ST – State Threatened
SCE – State Candidate for listing as Endangered
CFP – California Fully-Protected Species
SSC – Species of Special Concern

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land
Not Covered = Species not adequately conserved under MSHCP
None = Species not considered for conservation coverage under MSHCP

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

OCCURRENCE

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

4.5.1 Special-Status Wildlife Species Observed within the Project Site

Least Bell's Vireo (*Vireo bellii pusillus*) – The least Bell's vireo is state and federally listed as endangered, and is covered under the MSHCP. The least Bell's vireo is typically associated with dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.

GLA biologists conducted a focused survey for least Bell's vireo in all areas of suitable habitat within the Project site. Suitable riparian habitat within the Project site consists of areas mapped as Goodding's willow riparian woodland and mulefat thickets, which are associated with Drainages A and B. The easternmost portion of Drainage B within the Project site represents the most suitable habitat for the species within the site, and is characterized by a relatively dense canopy of Goodding's black willow, with a fairly stratified understory of riparian species such as mulefat and mugwort (*Artemisia douglasiana*). The western reaches of Drainage B, and most of Drainage A both support a much higher percent composition of non-native species such as Mexican fan palm (*Washingtonia robusta*), eucalyptus (*Eucalyptus* sp.), tree tobacco (*Nicotiana glauca*), among others, as well as a much less consistent riparian canopy and sparse or nonexistent riparian understory. Regardless, the entire reaches of Drainage A and B as they occur onsite were covered during the focused survey effort.

During the focused surveys, a single individual male was observed on multiple occasions utilizing the Goodding's willow riparian woodland associated with the easternmost portion of Drainage B. No least Bell's vireo were detected in the disturbed riparian habitats associated with Drainage A, nor the western reaches of Drainage B. Detection locations occurred both onsite and offsite and are depicted as an estimated territory on Exhibit 7. Onsite occupied habitat comprises approximately 0.10 acre of Goodding's willow riparian woodland. No nesting behavior was observed during the surveys, however, the 0.10 acre of Goodding's willow woodland where the single male was detected supports suitable nesting habitat.

Pocketed Free-Tailed Bat (*Nyctinomops femorosaccus*) - The pocketed free-tailed bat is designated as a CDFW Species of Special Concern and a Western Bat Working Group (WBWG)

medium priority species. This species is not covered under the MSHCP. The pocketed free-tailed bat is usually associated with rugged canyons, high cliffs, and rock outcroppings. This species roosts in rock crevices and caves during the day and may also roost in buildings or under roof tiles.

A focused bat survey was performed to evaluate the presence of foraging and roosting bat species within the Project site. One pocketed free-tailed bat was detected acoustically within the southern drainage (Drainage B) on one occasion. No evidence of roosting was detected on site by this species. Historic CNDDB records from the Cajalco Tin Mine (1997) indicate that pocketed free tailed bats have been detected within approximately three miles of the Project site.

In addition to Drainages A and B, portions of the Project site supporting scrub, ruderal and riparian vegetation would potentially provide suitable foraging habitat.

Western Yellow Bat (*Lasiurus xanthinus*) – The western yellow bat is designated as a CDFW Species of Special Concern and a WBWG high priority species. This species is not covered under the MSHCP. The western yellow bat occurs year-round in southern California and is typically associated with valley foothill, riparian, desert wash, desert riparian and palm oasis habitats, where they often roost in trees taller than three meters in height. Native and non-native palm trees are also known to provide suitable roosting habitat for the species.

During the focused bat surveys, a single western yellow bat was detected acoustically on one occasion along the northern drainage (Drainage A). Based on the time of detection, the western yellow bat was likely roosting in a clump of canary island palms located offsite, but immediately adjacent to northern Project site boundary.

In addition to Drainages A and B, portions of the Project site supporting scrub, ruderal and riparian vegetation would potentially provide suitable foraging habitat.

4.5.2 Special-Status Wildlife Species Not Observed but with a Potential to Occur at the Project Site

Reptiles

Two special-status reptiles have potential to occur within the Project site: coastal tiger whiptail (*Aspidoscelis tigris stejnegeri*; SSC; MSHCP) and red-diamond rattlesnake (*Crotalus ruber*; SSC; MSHCP). Neither of these species are state or federally listed, and each are designated as SSC and are covered species under the MSHCP without additional survey or conservation requirements. The Project site provides suitable habitat within areas of saltbush scrub and brittlebush scrub for each of these species; however, they were not observed during biological surveys.

Birds

The loggerhead shrike (*Lanius ludovicianus*; SSC; MSHCP) has potential to occur onsite for nesting and foraging within the non-native grassland areas, as well as within areas of brittlebush

scrub and saltbush scrub. This species is a covered species under the MSHCP without additional survey or conservation requirements.

The yellow warbler (*Setophagia petechia*; SSC; MSHCP) has potential to occur onsite for nesting and foraging within willow riparian, mulefat thickets and eucalyptus groves. This species is a covered species under the MSHCP without additional survey or conservation requirements.

4.5.3 Special-Status Wildlife Species Confirmed Absent Through Focused Surveys at the Project Site

Crotch's Bumble Bee (*Bombus crotchii*) - Crotch's bumble bee (CBB) is designated as a State Candidate species under CESA and is not a covered species under the MSHCP. GLA biologists conducted focused surveys for CBB during the 2023 spring and summer seasons within all areas of suitable habitat within the Project site. The focused CBB surveys followed the methods and guidelines recommended by the CDFW Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species (2023).

GLA's biologist did not observe CBB during the focused surveys conducted at the Project site in 2023, therefore, the species was confirmed absent.

Burrowing Owl (*Athene cunicularia*) - The burrowing owl is designated as an SSC and is a covered species not adequately conserved under the MSHCP, which means that projects located within the Burrowing Owl Survey Area may have to evaluate avoidance measures if burrowing owls are present. The Project site is located within the MSHCP Burrowing Owl Survey Area. Although the Project is not seeking coverage under the MSHCP, suitable habitat occurs throughout the site within non-native grasslands and disturbed areas. As such, burrowing owl surveys were performed in accordance to the MSHCP Guidelines to demonstrate consistency with the MSHCP and to evaluate potential Project impacts under the California Fish and Game Code, which prohibits impacts to nesting native and migratory bird species.

GLA biologists did not observe burrowing owls, or evidence of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) during the focused burrowing owl surveys in March-June 2023. Therefore, the species was confirmed absent. In order to be consistent with the Specific Plan EIR and MSHCP burrowing owl survey guidelines (*Additional Survey Needs and Procedures, Section 6.3.2*), pre-construction surveys will occur within 30-days prior to ground disturbance within all areas of the Project site suitable for burrowing owl.

4.5.4 Raptor Use

The Project site provides suitable foraging and limited breeding habitat for raptor species, including special-status raptors.

Southern California holds a diversity of birds of prey (raptors), and many of these species are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands. This type of habitat has declined severely in the region, affecting many species, but especially raptors. A few species, such as Red-tailed Hawk (*Buteo jamaicensis*) and American Kestrel (*Falco sparverius*), are somewhat

adaptable to low-level human disturbance and can be readily observed adjacent to neighborhoods and other types of development. These species still require appropriate foraging habitat and low levels of disturbance in the vicinity of nesting sites.

Many of the raptors that would be expected to forage and nest within western Riverside are fully covered species under the MSHCP with the MSHCP providing the necessary conservation of both foraging and nesting habitats. Some common raptor species (e.g., American kestrel and Red-tailed Hawk) are not covered by the MSHCP but are expected to be conserved with implementation of the Plan due to the parallel habitat needs with those raptors covered under the Plan. However, the MSHCP does not provide MBTA and Fish and Game Code take for raptors covered under the Plan.

Appendix B [faunal compendium] provides a list of the hawks and falcons detected over the course of the field studies. These species were Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), northern harrier (*Circus cyaneus*), merlin (*Falco columbarius*), peregrine falcon (*Falco peregrinus*), and American kestrel (*Falco sparverius*). Ferruginous hawk (*Buteo regalis*), white-tailed kite (*Elanus leucurus*), great horned owl (*Bubo virginianus*) and barn owl (*Tyto alba*) were not detected during field studies conducted at the site, but were found to have the potential to occur. The Project exhibits limited potential nesting habitat (e.g., mature trees, shrubs) for the species listed above, but is expected to provide foraging habitat for all of them.

4.6 Bats

Seven species of bats were detected within the Project site during the focused bat surveys: big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*), Mexican free-tailed bat (*Tadarida brasiliensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), western yellow bat (*Lasiurus xanthinus*), and Yuma myotis (*Myotis yumanensis*).[10]

The pocketed free-tailed bat and western yellow bat are both designated as CDFW Species of Special Concern and are designated by the WBWG as medium and high priority species, respectively.

Habitat within the main drainages on site (Drainages A and B) is highly disturbed with a mixture of non-native vegetation including Mexican fan palm (*Washingtonia robusta*), Canary Island palm (*Phoenix canariensis*), Peruvian peppertree (*Schinus molle*), gum tree (*Eucalyptus* sp.), castor bean (*Ricinus communis*) and native vegetation including black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), mulefat (*Baccharis salicifolia*), and blue elderberry (*Sambucus cerulea*). The drainages are generally very incised and narrow. Surface water was present within Drainage B.

[10] Because both the Yuma myotis and California myotis have very similar echolocation call signatures within the 45 to 50 kilohertz (kHz) range and are both known to occur in the general vicinity, both species are presumed present based on calls recorded and from individual echolocation calls that appear diagnostic for each species.

One pocketed free-tailed bat was detected acoustically within the southern drainage (Drainage B) on one occasion. No evidence of roosting was detected on site by this species. A single western yellow bat was detected acoustically on one occasion along the northern drainage (Drainage A). In addition, based on the time of detection, the western yellow bat was likely roosting in a clump of canary island palms located offsite, but immediately adjacent to northern Project site boundary.

In addition, evidence of roosting canyon bats (*Parastrellus hesperus*) was also detected within a mature Eucalyptus tree (*Eucalyptus* sp.) within Drainage B, along the southern Project site boundary. On June 1, 2023, it was estimated that approximately eight to 10 canyon bats exited from the Eucalyptus tree. Based on the number of bats observed and the time of year, it is likely that the observation constituted a maternity roost.

4.7 Nesting Birds

The Project site contains trees, shrubs, and ground cover that provide suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.[11]

4.8 Wildlife Linkages/ Corridors and Nursery Sites

The MSHCP addresses the regional movement of wildlife throughout the Plan Area. *Volume I, Section 3.2.3* of the MSHCP identifies various Cores and Linkages within the MSHCP Conservation Area. Cores, Proposed Cores, and Extensions of Existing Cores represent the larger blocks of habitat within the MSHCP Conservation Area that provide the biological requirements for the Covered Species. In order to ensure that Covered Species (and non-Covered Species) are able to move between the Cores, the MSHCP provides for Linkages (existing and proposed) that serve as connections between habitat blocks, as well as live-in habitat, in order to maintain regional wildlife movement.

The Project site provides live-in habitat and dispersal habitat for numerous wildlife species, including amphibians, reptiles, birds, and mammals. In addition, drainages at the Project site likely facilitate the movement/dispersal of wildlife (particularly birds, and small and medium-sized mammals) locally within the site, as well as between the site and adjacent properties. Furthermore, it is important to maintain the regional movement (and therefore genetic flow) of wildlife by maintaining open space connections between larger blocks of conserved habitat.

4.8.1 Wildlife Linkages/Corridors

Habitat linkages are areas which provide a connection between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small

[11] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of "gene flow" between populations, with movement taking potentially many generations.

The MSHCP defines a Linkage as a connection between Core Areas with adequate size, configuration, and vegetation characteristics to generally provide for "live-in" habitat and/or provide for genetic flow for identified Planning Species. Areas identified as Linkages in the MSHCP may provide movement habitat but not live-in habitat for some species, thereby functioning more as movement corridors. Constrained Linkages consist of constricted connections that are expected to provide for the movement of identified Planning Species between Core Areas, but where options for assembly of the connection are limited due to existing patterns of use.

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

The Project site is not within an existing or proposed Core, Linkage, or Constrained Linkage as identified by the MSHCP. The Project site occurs immediately south Travertine Drive and immediately north of El Sobrante Road and is bordered to the north and west by existing residential development. The site is bordered by rural residential and agricultural operations to the south and east. South of El Sobrante Road lies the Lake Mathews/Estelle Mountain Reserve which comprises Existing Core C and may currently provide some source of local wildlife movement onto the site - particularly for opportunistic species. Existing Core C provides live-in habitat for a large number of species as well as linkage area for species moving from the Gavilan Hills area to Temescal Wash. However, given that the Project site is hemmed-in to the north, west and east by existing residential development, the proposed Project site itself is not expected to support wildlife movement or serve as a functioning wildlife corridor, either alone or in relation to Existing Core C.

4.8.2 Native Wildlife Nursery Sites

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

The Project site supports breeding and nesting habitat for locally common species; however, for most species, it does not have the potential to support a regionally important or colonial wildlife nursery site. The Project site does support a potential maternity roost for canyon bat within the eucalyptus groves present in Drainage B.

4.9 Critical Habitat

The Project site is not located within an area designated as critical habitat by USFWS.

4.10 Jurisdictional Waters

4.10.1 Aquatic Resources

A total of four drainage features extend through the Project site in a general north/northwest direction before continuing offsite towards the neighboring Citrus Heights development, and eventually the Gage Canal, which is a man-made irrigation canal that is a distributary of the Santa Ana River. The drainages at the Project site range from ephemeral to intermittent within portions containing perennial seeps, and are described herein as Drainage A, Tributary A-1, Tributary A-2, and Drainage B.

Drainage A originates as an ephemeral drainage in the eastern portion of the Project site and extends northwesterly before continuing its path offsite. The upper and middle reaches of Drainage A are dry with portions of the channel incised down to bedrock. The upper reaches are disturbed with patches of tree tobacco (*Nicotiana glauca*, FAC), Mexican fan palm (*Washingtonia robusta*, FACW)), desert brittlebush (*Encelia farinose*, UPL), mulefat (*Baccharis salicifolia*, FAC), castor bean (*Ricinus communis*, FACU), Peruvian pepper (*Schinus molle*, UPL), four wing saltbush (*Atriplex canescens*, UPL), blue elderberry (*Sambucus nigra* ssp. *caerulea*, FACU), California buckwheat (*Eriogonum fasciculatum*, UPL), black mustard (*Brassica nigra*, UPL), and various bromes (*Bromus* ssp.).

A perennial seep occurs in the downstream reach where the drainage course becomes vertically incised to a depth that coincides with a semi-impermeable layer. This area receives relatively permanent hydrology from a buried pipe culvert that conveys flows from the neighboring development to the north. The mid and downstream reaches of Drainage A support areas of dense willow riparian canopy including black willow (*Salix goodingii*, FACW) and arroyo willow (*Salix lasiolepis*, FACW). Additional species associated with the drainage include stinging nettle (*Urtica dioica*, FAC), mulefat (*Baccharis salicifolia*, FAC), yerba mansa (*Anemopsis californica*, OBL), Mexican fan palm, Canary palm (*Phoenix canariensis*, UPL), and perennial pepperweed (*Lepidium latifolium*, FAC). Portions of Drainage A exhibit evidence of hydric soils and support emergent hydrophytic plant species such as southern cattail (*Typha domingensis*, OBL), duckweed (*Lemna* sp., OBL), and water cress (*Nasturtium officinale*, OBL).

Tributaries A-1 and A-2 flow only in direct response to precipitation and were completely dry during the field assessment. Both features extend northerly/northwesterly and are tributary to Drainage A. Tributary A-1 meanders in a northerly direction along the western Project boundary, with approximately 254 linear feet of the low flow channel occurring within the Project site. Tributary A-1 is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle (*Salsola tragus*, FACU), four wing saltbush, California buckwheat, black mustard, and various bromes. Additional vegetation associated with the downstream extent includes Peruvian pepper, blue elderberry, and sparse occurrences of mulefat.

Tributary A-2 originates in the east central portion of the Project site and extends northwesterly for approximately 2,738 linear feet before its eventual confluence with Drainage A. The drainage

is highly disturbed with disjunct patches of tree tobacco, California sagebrush, desert brittlebush, castor bean, Russian thistle, four wing saltbush, California buckwheat, and black mustard. Sparse riparian vegetation associated with the drainage includes blue elderberry and sparse occurrences of mulefat. The majority of the channel banks are incised with erosional undercutting, rock and cobble, and sediment deposition within the low flow channel.

Drainage B conveys intermittent flows from the neighboring citrus operations in the southeast and was wet during the field assessments. This feature is interspersed by perennial seeps that occur where the drainage course becomes vertically incised to a depth where ground water is perched. Drainage B runs along the southwestern and southern boundaries of the Project site and extends in a general west/northwest direction for approximately 998 linear feet before continuing its path offsite towards its eventual confluence with Drainage A. Drainage B supports areas of vegetated riparian habitat adjacent to the channel banks. The downstream reaches of Drainage B are somewhat disturbed with stands of tree tobacco, California juniper, Mexican fan palm, desert brittlebush, castor bean, Peruvian pepper, four wing saltbush, California buckwheat, and black mustard. Riparian species associated with the drainage include mulefat, blue elderberry, black willow and arroyo willow. Additional species include stinging nettle, yerba mansa, Mexican fan palm, and Canary palm. Where perennial seeps occur, Drainage B supports emergent hydrophytic plant species such as southern cattail, duckweed, and water cress.

The Jurisdictional Delineation Report is attached as Appendix C.

4.10.2 Corps Jurisdiction

Corps jurisdiction at the Project site totals approximately 0.26 acre, of which 0.16 acre consists of federal wetlands.

Corps jurisdiction at the Project site is limited to the downstream reach of Drainage A and the majority of Drainage B. These drainages convey relatively permanent flows and include encompassing wetlands dominated by hydrophytes. Drainages A and B are ultimately tributary to the Gage Canal, which is a distributary of the Santa Ana River. Relatively permanent tributaries connected to waters of the U.S. are in themselves considered waters of the U.S. as defined under 33 CFR Part 328.3(a). As such, the downstream reach of Drainage A and all of Drainage B within the Project site are subject to Corps jurisdiction under Section 404 of the CWA.

The Project site also contains two drainage features and portions of two drainages that flow only in direct response to precipitation and were completely dry during the field delineation. These include the majority of Drainage A, Tributary A-1, Tributary A-2, and two small tributary segments of Drainage B. Features that do not convey a relatively permanent flow of water are not considered waters of the U.S. as defined under 33 CFR Part 328.3(a), and are therefore not subject to Corps jurisdiction under Section 404 of the CWA.

Table 4-4 below summarizes Corps jurisdiction at the Project site, followed by a description of each feature. The boundaries of the waters of the United States are depicted on Exhibit 9A.

Table 4-4. Summary of Corps Jurisdiction

Drainage Name	Non-Wetland Waters of the U.S. (acres)	Wetland Waters of the U.S. (acres)	Total Waters of the U.S. (acres)	Length (linear feet)
Drainage A	0.02	0.06	0.08	306
Drainage B	0.08	0.10	0.18	710
Total	**0.10**	**0.16**	**0.26**	**1,016**

4.10.3 Regional Water Quality Control Board Jurisdiction

Regional Board jurisdiction at the Project site totals approximately 0.75 acre, of which 0.16 acre consist of State wetlands. Of this total, 0.26 acre, of which 0.16 acre consists of State wetlands comprise Corps jurisdiction and the remaining 0.49 acre represents Regional Board jurisdiction only.

Regional Board jurisdiction at the Project site includes Drainage A, Tributary A-1, Tributary A-2, and Drainage B. The downstream reach of Drainage A and the majority of Drainage B convey relatively permanent flows with encompassing wetlands and are subject to Corps jurisdiction under Section 404 of the CWA. Accordingly, these features are also subject to Regional Board jurisdiction under Section 401 of the CWA and need not be analyzed separately under Section 13260 of the CWC.

As noted above, the remaining portions of Drainage A, Tributary A-1, Tributary A-2, and two small tributary segments of Drainage B do not convey a relatively permanent flow of water and are not subject to Corps jurisdiction under Section 404 of the CWA. However, since these features convey surface flow with the potential to support beneficial uses, they are considered waters of the State that would be subject to Regional Board jurisdiction under Section 13260 of the CWC.

Table 4-5 below summarizes Regional Board jurisdiction at the Project site, followed by a description of each feature. The boundaries of the waters of the State are depicted on Exhibit 9B.

Table 4-5. Summary of Regional Board Jurisdiction

Drainage Name	Non-Wetland Waters of the State (acres)	Wetland Waters of the State (acres)	Total Waters of the State (acres)	Length (linear feet)
Waters of the U.S./State				
Drainage A	0.02	0.06	0.08	306
Drainage B	0.08	0.10	0.18	710
Sub-Total	***0.10***	***0.16***	***0.26***	***1,016***
Waters of the State Only				
Drainage A	0.24	0	0.24	1,756
Tributary A-1	0.01	0	0.01	254

Drainage Name	Non-Wetland Waters of the State (acres)	Wetland Waters of the State (acres)	Total Waters of the State (acres)	Length (linear feet)
Tributary A-2	0.23	0	0.23	2,738
Drainage B	0.01	0	0.01	288
Sub-Total	***0.48***	***0***	***0.48***	***5,036***
Total	**0.58**	**0.16**	**0.75**	**6,052**

4.9.4 CDFW Jurisdiction

CDFW jurisdiction at the Project site totals approximately 1.89 acres, of which 1.29 acres consist of riparian habitat and includes all areas within Corps and Regional Board jurisdiction.

CDFW jurisdiction at the Project site includes Drainage A, Tributary A-1, Tributary A-2, and Drainage B. These features convey ephemeral to relatively permanent flows with physical and biological stream flow indictors including changes in soil characteristics, break in bank slope, and incised channel banks with identifiable widths. These features support wetland/riparian habitat and/or have the potential to support aquatic resources and are subject to CDFW jurisdiction under Section 1600 of the Fish and Game Code.

Table 4-6 below summarizes CDFW jurisdiction at the Project site, followed by a description of each feature. The boundaries of CDFW jurisdiction are depicted on Exhibit 9C.

Table 4-6. Summary of CDFW Jurisdiction

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Drainage A	0.22	0.46	0.68	2,071
Tributary A-1	0.02	0.00	0.02	254
Tributary A-2	0.33	0.16	0.49	2,738
Drainage B	0.04	0.67	0.71	1,011
Total	**0.61**	**1.29**	**1.89**	**6,073**

4.11 MSHCP Riparian/Riverine Areas and Vernal Pools

MSCHP Riparian/Riverine areas at the Project site total approximately 1.89 acres, of which 1.29 acres consist of MSHCP riparian. The site contains no MSHCP vernal pools.

MSHCP Riparian/Riverine at the Project site includes Drainage A, Tributary A-1, Tributary A-2, and Drainage B. These features convey ephemeral to relatively permanent flows with physical and biological stream flow indictors including changes in soil characteristics, break in bank

slope, and incised channel banks with identifiable widths. These features support wetland/riparian habitat and/or have the potential to support aquatic resources.

All riparian vegetation communities occurring within the Project site were surveyed for least Bell's vireo, with 0.10 acre of Goodding's willow riparian woodland within Drainage B confirmed occupied by the species. One single male least Bell's vireo was detected during the focused surveys, but no breeding behavior was observed (refer to Exhibit 7 for observation locations).

Table 4-7 below summarizes MSHCP Riparian/Riverine areas at the Project site. The boundaries of MSHCP Riparian/Riverine areas are depicted on Exhibit 9D.

Table 4-7. Summary of MSHCP Riparian Riverine Areas

Drainage Name	MSHCP Riverine (acres)	MSHCP Riparian (acres)	Total MSHCP Jurisdiction (acres)	Length (linear feet)
Drainage A	0.22	0.46	0.68	2,071
Tributary A-1	0.02	0.00	0.02	254
Tributary A-2	0.33	0.16	0.49	2,738
Drainage B	0.04	0.67	0.71	1,011
Total	**0.61**	**1.29**	**1.89**	**6,073**

4.12 Local Policies or Ordinances

There are no local policies or ordinances that apply to the Project site.

5.0 IMPACT ANALYSIS

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

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

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

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

5.1 California Environmental Quality Act (CEQA)

5.1.1 Thresholds of Significance

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

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

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

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

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

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

5.1.2 Criteria for Determining Significance Pursuant to CEQA

Appendix G of the 2018 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 Impacts to Sensitive Vegetation Communities

Appendix G(a) of the CEQA guidelines asks if a project is likely to “have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.”

The proposed Project would permanently impact approximately 84.79 acres of lands through grading, including areas of remedial grading that will not be restored to pre-project conditions.

Permanent impacts include approximately 2.42 acre of four-winged saltbush scrub, 0.20 acre of mulefat thickets, 69.97 acres of red brome grassland, 0.15 acre of Goodding's willow riparian woodland, 7.33 acres of brittle bush scrub, 0.22 acre of pepper tree groves, and 4.5 acres of disturbed/developed areas. The proposed Project would temporarily impact approximately 1.17 acres. Temporary impacts include approximately 0.16 acre of four-winged saltbush scrub, 0.68 acre of red brome grassland, 0.06 acre of brittle bush scrub, 0.02 acre of Goodding's willow riparian woodland, 0.01 acre of pepper tree groves, and 0.24 acre of disturbed/developed areas. Impacts to vegetation communities are summarized in Table 5-1 below.

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

Vegetation/Land Use Type	Onsite Perm. Impacts	Onsite Temp. Impacts	Offsite Perm. Impacts	Offsite Temp. Impacts	Total Impacts	Total Avoided
Atriplex canescens Shrubland Alliance (Four wing saltbush scrub)	2.39	0.15	0.03	0.00	**2.57**	**2.62**
Baccharis salicifolia Shrubland Alliance (Mulefat thickets)	0.10	0.00	0.10	0.00	**0.20**	**0.04**
Bromus rubens Herbaceous Semi-Natural Alliance (Red brome grasslands)	69.53	0.63	0.44	0.06	**70.66**	**7.70**
Encelia farinosa Shrubland Alliance (Brittle bush scrub)	7.33	0.06	0.00	0.00	**7.39**	**0.88**
Eucalyptus spp. Woodland Semi-Natural Alliance (Eucalyptus groves)	0.00	0.00	0.00	0.00	**0.00**	**0.33**
Salix gooddingii Woodland Alliance (Goodding's willow riparian woodland)	0.07	0.01	0.08	0.01	**0.17**	**0.34**
Schinus molle Woodland Semi-Natural Alliance (Pepper tree groves)	0.22	0.01	0.00	0.00	**0.23**	**0.12**
Disturbed/Developed	2.05	0.01	2.45	0.23	**4.74**	**0.6**
Total	**81.69**	**0.87**	**3.10**	**0.30**	**85.96**	**12.63**

The Project will impact one special-status vegetation alliance, Goodding's willow riparian woodland, which is designated as S3 in the CNDDB and considered sensitive under CEQA. Impacts to this alliance are necessary to construct roadway improvements and total 0.17 acre. The loss of riparian habitat must be mitigated pursuant to *Volume I, Section 6.1.2* of the MSHCP. Impacts to Goodding's willow riparian woodland and mulefat thickets would be less than significant with mitigation as described below in Section 6.0 of this report. None of the other vegetation communities to be impacted by the Project are considered sensitive.

5.3 Impacts to Special-Status Species

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

5.3.1 Special-Status Plants

The Project site does not support any special-status plants. Therefore, there would be no impact on special-status plants associated with the Project.

5.3.2 Special-Status Animals

The Project site supports special-status animal species, including the state and federally listed endangered least Bell's vireo, and state designated species of special concern; pocketed free-tailed bat and western yellow bat. Species of special concern with potential to occur onsite include coastal whiptail, red-diamond rattlesnake, loggerhead shrike and yellow warbler.

Impacts to Listed Species

Least Bell's Vireo – A single male least Bell's vireo was observed utilizing approximately 0.10 acre of Goodding's willow riparian woodland that occurs onsite within Drainage B, as well as offsite areas of suitable habitat within Drainage B to the west [Exhibit 7]. The proposed Project will avoid all areas of occupied habitat. Proposed impacts to unoccupied portions of Drainage B occur approximately 436 feet (~132 meters) west of the single male LBV and consist of mulefat thickets that exhibit a relatively high level of disturbance and high percent composition of non-native vegetation. Likewise, proposed impacts to unoccupied riparian habitat associated with Drainage A consist of disturbed Goodding's willow riparian woodland that also exhibits a high level of disturbance and high percent composition of non-native vegetation.

Per Section 6.1.2 of the MSHCP and the species-specific objectives for the LBV (MSHCP Volume II.B.) at least 90 percent of habitat with long-term conservation value must be avoided (includes protection mechanism such as a deed restriction, conservation easement, etc.) for the LBV and that projects implement 100 meters of undeveloped landscape adjacent to the habitat conserved. If at least 90-percent avoidance is not feasible, then the loss of LBV habitat must be approved with mitigation subject to the DBESP process.

The Project will avoid all areas of habitat with long-term conservation value for LBV (0.10 acre of occupied Goodding's willow riparian woodland). The Project currently implements a setback that ranges between approximately 40 and 72 meters from areas of occupied habitat within Drainage B, however, that portion of the drainage is deeply incised and while it is expected to provide a topographical buffer to any potential visual and/or noise-related disturbance associated with the proposed Project, the potential for indirect impacts to LBV cannot be ruled out. With MSHCP compliance, and proposed mitigation measures, indirect impacts to LBV by the proposed Project would be fully mitigated. Refer to Section 6.0 for more details.

Impacts to Non-Listed Species

In addition to the listed species discussed above, the proposed Project would impact habitat for other non-listed, special-status species that have either been observed on the Project footprint, or that have the potential to occur. The analysis presented in this section is split into those listed species covered by the MSHCP and those that are not covered by the MSHCP.

MSHCP Covered Non-Listed Species

Burrowing owl - As burrowing owls were not observed within the Project site during focused surveys, proposed impacts to this species from development of the Project would not result in impacts to burrowing owl. However, due to the mercurial nature of the species, a pre-construction burrowing owl survey is required by Section 6.3.2 of the MSHCP. Refer to Section 6.0 for details.

Loggerhead shrike - Proposed impacts caused by the Project to loggerhead shrike would be potentially significant under CEQA, as a result of the loss of nesting and foraging habitat (red brome grassland, brittlebush scrub and four-wing saltbush scrub) that occurs throughout the majority of the 85.96 acre impact footprint. Loggerhead shrike has declined appreciably in western Riverside County and the loss of potential for this species by development of the Project would be potentially significant under CEQA.

Loggerhead shrike is designated as a "Fully Covered Species" under the MSHCP. Focused surveys are not required. With compliance with the MSHCP, including MSHCP fee payment, impacts to loggerhead shrike would be reduced to a level of less than significant under CEQA.

Yellow warbler - The Project would impact approximately 0.37 acre of potential nesting and foraging habitat (Goodding's willow riparian woodland and mulefat thickets) for yellow warbler. This species inhabits riparian ecosystems and woodland habitats which have declined greatly over past decades. The removal of nesting habitat and foraging habitat for the species would be potentially significant under CEQA.

Yellow warbler is designated as "Fully Covered Species" under the MSHCP. Focused surveys are not required. With compliance with the MSHCP, including MSHCP fee payment, impacts to yellow warbler would be reduced to a level of less than significant under CEQA.

Coastal whiptail – The Project would impact approximately 10 acres of suitable habitat (four-wing saltbush scrub and brittle bush scrub) for coastal whiptail. Proposed impacts to coastal whiptail would be less than significant under CEQA. This is based on the number of individuals potentially affected, the species role within suitable habitat occurring at the Project site, and/or whether the species remains "common" to the region. Regardless, these species are designated as "Covered Species" under the MSHCP, with any potential impacts mitigated by the Plan.

Red-diamond rattlesnake - The Project would impact approximately 10 acres of suitable habitat (four-wing saltbush scrub and brittle bush scrub) for red-diamond rattlesnake. Proposed

impacts to red-diamond rattlesnake would be less than significant under CEQA. This is based on the number of individuals potentially affected, the species role within suitable habitat occurring at the Project site, and/or whether the species remains "common" to the region. Regardless, these species are designated as "Covered Species" under the MSHCP, with any potential impacts mitigated by the Plan.

MSHCP Non-Covered Non-Listed Species

Pocketed free-tailed bat - The Project would result in impacts to approximately 0.37 acre of potential foraging habitat (Goodding's willow riparian woodland and mulefat thickets) for pocketed free-tailed bat. The Project will not result in impacts to roosting habitat for pocketed free-tailed bat. Proposed impacts to pocketed free-tailed bat foraging habitat would not be CEQA significant because of the large amount of potential foraging habitat that would remain in close vicinity (e.g. Lake Mathews Reserve) south of El Sobrante Road and the amount of Drainages A and B that would be avoided and/or proposed for onsite mitigation for impacts to riparian/riverine areas. Refer to Section 6.0 for details.

Western yellow bat - The Project would result in impacts to approximately 0.37 acre of potential foraging habitat (Goodding's willow riparian woodland and mulefat thickets) for western yellow bat. The Project will not result in impacts to roosting habitat for western yellow bat (potential roosting habitat is located offsite). Proposed impacts to western yellow bat foraging habitat would not be CEQA significant because of the large amount of potential foraging habitat that would remain in close vicinity (e.g. Lake Mathews Reserve) south of El Sobrante Road and the amount of Drainages A and B that would be avoided and/or proposed for onsite mitigation for impacts to riparian/riverine areas. Refer to Section 6.0 for details.

5.4 Impacts to Raptor Use

Raptors (Birds of Prey) include owls, hawks, eagles, and falcons. Common species of raptors (e.g. red-tailed hawk, American kestrel, great horned owl) have potential to forage on the Project site. The proposed Project would remove an estimated 81.22 acres of potential foraging habitat (all mapped vegetation types except for disturbed/developed) and an estimated 0.40 acre of potential nesting habitat that includes Goodding's willow riparian woodland and pepper tree groves.

During the field studies, no raptors were observed nesting at the Project site. Raptor species expected to nest but not observed during the field studies include the barn owl, American kestrel, red-tailed hawk, and Cooper's hawk. Based on the lack of nesting activity during the field studies; relative low numbers of individual raptors detected; and low to moderate quality of the potential nesting habitat, the proposed permanent removal of 0.40 acre of potential raptor nesting habitat would not be a significant impact under CEQA.

The loss of potential foraging and nesting habitat for common species of raptors would be a less than significant impact under CEQA. The common raptor species (e.g., American kestrel and red-tailed hawk) are not covered by the MSHCP and lack special status but are expected to be

conserved with implementation of the Plan due to the parallel habitat needs with raptor species that are afforded coverage under the Plan.

5.5 Impacts to Bat Use

Seven species of bats were detected within the Project site during the focused bat surveys: big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*), Mexican free-tailed bat (*Tadarida brasiliensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), western yellow bat (*Lasiurus xanthinus*), and Yuma myotis (*Myotis yumanensis*).

The pocketed free-tailed bat and western yellow bat are both designated as CDFW Species of Special Concern and are designated by the WBWG as medium and high priority species, respectively. Both species were detected only once during bat surveys and are expected to utilize the site for foraging purposes. Proposed impacts to foraging habitat for pocketed free-tailed bat and western yellow bat would total approximately 0.37 acre. Proposed impacts would not be CEQA significant because of the large amount of potential foraging habitat that would remain in close vicinity (e.g. Lake Mathews Reserve) south of El Sobrante Road and the amount of Drainages A and B that would be avoided and/or proposed for onsite mitigation for impacts to riparian/riverine areas. Refer to Section 6.0 for details.

Eucalyptus groves located within Drainage B at the Project site support a potential maternity roost of canyon bats. The proposed Project will not result in impacts to eucalyptus groves; however, the Project does have the potential to result in indirect impacts to the canyon bat maternity roost that could be considered CEQA significant. Refer to Section 6.0 for measures to reduce the potential for indirect impacts to canyon bat maternity roosting to a level of less than significant.

5.6 Impacts to Wetlands

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

The Project site supports 0.16 acre of wetlands subject to Corps and Regional Board jurisdiction, of which 0.06 acre is associated with Drainage A and 0.10 acre is associated with Drainage B. The Project will impact approximately 0.05 acre of wetland in Drainage A associated with roadway improvements and 0.02 acre of wetland within Drainage B, also for roadway improvements. Impacts to 0.07 acre of wetland would be considered significant, but with mitigation the impacts would be reduced to less-than-significant. Refer to Section 6.0 for details regarding wetlands mitigation.

5.7 Impacts to Wildlife Movement and Native Wildlife Nursery Sites

Appendix G(d) of the State CEQA guidelines asks if a project is likely to "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with

established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites."

The proposed Project would remove live-in habitat for wildlife and would restrict the local movement of wildlife within and through the Project site. It is not expected that this impact would be a potentially significant impact to wildlife movement. Additionally, the Project site does not occur within a designated MSHCP Linkage or Constrained Linkage, and the Project site is not critical for regional wildlife movement as recognized by the MSHCP, and as such, impacts to wildlife movement would be mitigated to a level of less than significant through compliance with the MSHCP.

The Project has the potential to result in indirect impacts to a canyon bat maternity roost located in the eucalyptus groves associated with Drainage B. Potential impacts to a canyon bat maternity roost would be considered significant, but with mitigation the impacts would be reduced to less than significant. Refer to Section 6.0 for avoidance and minimization measures regarding potential indirect impacts to the canyon bat maternity roost.

The Project has the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to September 15). Impacts to nesting birds are prohibited by the MBTA and California Fish and Game Code.

Although impacts to native birds are prohibited by MBTA and similar provisions of California Fish and Game Code, impacts to native birds by the proposed Project would not be a significant impact under CEQA. The native birds with potential to nest on the Project site would be those that are extremely common to the region and highly adapted to human landscapes (e.g., house finch, killdeer). The number of individuals potentially affected by the Project would not significantly affect regional, let alone local populations of such species. A measure is identified in Section 6.0 of this report to avoid impacts to nesting birds.

5.8 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." The Project will not conflict with any local policies or ordinances protecting biological resources.

5.9 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines asks if a project is likely to "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan." As discussed throughout this report, the Project is within the Western Riverside County MSHCP. Section 7.0 of this report analyzes compliance of the Project with the Reserve Assembly and species/habitat requirements of the MSHCP. Impacts to species/habitats with MSHCP requirements are summarized here. Through compliance with the applicable requirements, the Project will not conflict with the provisions of the MSHCP.

5.9.1 Impacts to Least Bell's Vireo

A single male least Bell's vireo was observed utilizing approximately 0.10 acre of Goodding's willow riparian woodland that occurs onsite within Drainage B, as well as offsite areas of suitable habitat within Drainage B to the west [Exhibit 7]. The proposed Project will avoid all areas of occupied habitat. Proposed impacts to unoccupied portions of Drainage B occur approximately 436 feet (~132 meters) west of the single male LBV, and consist of mulefat thickets that exhibit a relatively high level of disturbance and high percent composition of non-native vegetation. Likewise, proposed impacts to unoccupied riparian habitat associated with Drainage A consist of disturbed Goodding's willow riparian woodland that also exhibits a high level of disturbance and high percent composition of non-native vegetation.

Per *Section 6.1.2* of the MSHCP and the species-specific objectives for the LBV (MSHCP Volume II.B.) at least 90 percent of habitat with long-term conservation value must be avoided (includes protection mechanism such as a deed restriction, conservation easement, etc.) for the LBV and that projects implement 100 meters of undeveloped landscape adjacent to the habitat conserved. If at least 90-percent avoidance is not feasible, then the loss of LBV habitat must be approved with mitigation subject to the DBESP process.

The Project will avoid all areas of habitat with long-term conservation value for LBV (0.10 acre of occupied Goodding's willow riparian woodland). The Project currently implements a setback that ranges between approximately 40 and 70 meters from areas of occupied habitat within Drainage B, however, that portion of the drainage is deeply incised and while it is expected to provide a topographical buffer to any potential visual and/or noise-related disturbance associated with the proposed Project, the potential for indirect impacts to LBV cannot be ruled out. With MSHCP compliance, and proposed mitigation measures, indirect impacts to LBV by the proposed Project would be fully mitigated. Refer to Section 6.0 for more details.

5.9.2 Impacts to MSHCP Riparian/Riverine Areas

The Project will impact Riparian/Riverine Areas subject to the policies in *Volume I, Section 6.1.2* of the MSHCP that describes the process through which protection of riparian/riverine areas is implemented. Impacts to MSHCP Riparian/Riverine resources are coincident with impacts to CDFW jurisdiction.

The Project will result in onsite and offsite impacts that includes both permanent and temporary impacts. Specifically, the Project will result in combined onsite and offsite permanent impacts to 0.63 acre of MSHCP riparian/riverine areas, of which 0.36 acre consists of riparian habitat. Temporary impacts including onsite and offsite and total 0.02 acre of which 0.02 acre is MSHCP riparian habitat. Impacts to MSHCP Riparian/Riverine would be considered significant and with mitigation impacts would be reduced to less than significant (Refer to Section 6.0 for details). Impacts to MSHCP Riparian/Riverine areas are summarized in Table 5-2.

Table 5-2. Impacts to MSHCP Riparian/Riverine Areas

Drainage	Permanent Impacts		Temporary Impacts	
	Riparian	Riverine	Riparian	Riverine
Onsite A	0.03	0.001	0.001	0.00
Offsite A	0.08	0.00	0.005	0.00
Onsite B	0.10	0.00	0.003	0.00
Offsite B	0.10	0.00	0.01	0.00
Onsite A2	0.05	0.27	0.004	0.004
Total	**0.36**	**0.27**	**0.02**	**0.004**

5.10 Impacts to Jurisdictional Waters

5.10.1 Impacts to Corps Jurisdiction

The Project will result in onsite and offsite impacts that includes both permanent and temporary impacts. Specifically, the Project will result in combined onsite and offsite permanent impacts to 0.10 acres of Corps jurisdiction of which 0.07 acre consists of jurisdictional wetlands. Temporary impacts including onsite and offsite total 0.005 acre of which 0.003 acre is wetland. Impacts to Corps jurisdiction would be considered significant and with mitigation impacts would be reduced to less than significant. Impacts to Corps jurisdiction are summarized in Table 5-3. Confirmation of any Corps jurisdiction and associated impacts would be verified during the Section 404 permitting process.

Table 5-3. Impacts to Corps Jurisdiction

Drainage	Permanent Impacts (acres)			Temporary Impacts (acres)		
	Wetland	Non-Wetland	Non-Juris.	Wetland	Non-Wetland	Non-Juris.
Onsite A	0.02	0.00	0.001	0.001	0.00	0.00
Offsite A	0.03	0.00	0.00	0.001	0.00	0.00
Onsite B	0.01	0.01	0.00	0.00	0.00	0.00
Offsite B	0.01	0.02	0.00	0.001	0.001	0.00
Onsite A2	0.00	0.00	0.18	0.00	0.00	0.002
Total	**0.07**	**0.03**	**0.18**	**0.003**	**0.001**	**0.002**

5.10.2 Impacts to Regional Board Jurisdiction

The Project will result in onsite and offsite impacts that includes both permanent and temporary impacts. Specifically, the Project will result in combined on-site and off-site permanent impacts to 0.29 acre of Waters of the State of which 0.07 acre consists of jurisdictional wetlands. Temporary impacts including onsite and offsite total 0.006 acre of which 0.003 acre is wetland. Impacts to Regional Board jurisdiction would be considered significant and with mitigation

impacts would be reduced to less than significant. Impacts to Regional Board jurisdiction are summarized in Table 5-4.

Table 5-4. Impacts to Regional Board Jurisdiction

Drainage	Permanent Impacts (acres) (lin. Ft.)		Temporary Impacts (lin. Ft)	
	Wetland	Non-Wetland	Wetland	Non-Wetland
Onsite A	0.02 (57 lf.)	0.001 (51 lf.)	0.001 (5 lf.)	0.00
Offsite A	0.03 (145 lf.)	0.00	0.001 (5 lf)	0.00
Onsite B	0.01 (76 lf)	0.01 (0 lf)	0.00	0.00
Offsite B	0.01 (163 lf.)	0.02 (0 lf.)	0.001 (8 lf.)	0.00
Onsite A2	0.00	0.18 (2355 lf.)	0.00	0.002 (18 lf.)
Total	**0.07**	**0.21**	**0.003**	**0.002**

5.10.3 Impacts to CDFW Jurisdiction

The Project will result in onsite and offsite impacts that includes both permanent and temporary impacts. Specifically, the Project will result in combined onsite and offsite permanent impacts to 0.65 acre of CDFW jurisdiction of which 0.38 acre consists of riparian habitat. Temporary impacts including onsite and offsite total 0.024 acre of which 0.02 acre is riparian habitat. Impacts to CDFW jurisdiction would be considered significant and with mitigation impacts would be reduced to less than significant. Impacts to CDFW jurisdiction are summarized in Table 5-5.

Table 5-5. Impacts to CDFW Jurisdiction

Drainage	Permanent Impacts		Temporary Impacts	
	Riparian	Non-Riparian	Riparian	Non-Riparian
Onsite A	0.03	0.001	0.001	0.00
Offsite A	0.08	0.00	0.005	0.00
Onsite B	0.10	0.00	0.003	0.00
Offsite B	0.10	0.00	0.01	0.00
Onsite A2	0.05	0.27	0.004	0.004
Total	**0.36**	**0.27**	**0.02**	**0.004**

5.11 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to adjacent native open space. The Project is not expected to result in significant indirect impacts to special-status biological resources, with the implementation of measures pursuant to the MSHCP Urban/Wildlands Interface Guidelines (*Volume I, Section 6.1.4* of the MSHCP). These guidelines are intended to address indirect effects associated with locating projects (particularly development) in proximity to MSHCP Conservation Areas.

While the Project is not located adjacent to an MSHCP Conservation Area, the measures will serve to address the potential for indirect effects to sensitive, avoided habitats adjacent to the proposed development; such as the Goodding's willow riparian woodland within Drainages A and B. In addition to being a sensitive vegetation community (S3), 0.10 acre of Goodding'willow riparian woodland at the Project site supports the state and federally listed as endangered least Bell's vireo and has the potential to support other sensitive species such as the yellow warbler, pocketed free-tailed bat and western yellow bat. As a means to address the potential for indirect impacts to the sensitive vegetation community and sensitive species within avoided riparian areas, the Project will implement measures consistent with the MSHCP guidelines to address the following:

- Drainage;
- Lighting;
- Noise;
- Invasives; and
- Barriers

5.11.1 Drainage

The Project shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to Drainages A and B is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into Drainages A and B. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within Drainages A and B. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

The Project's contractor will develop a Stormwater Pollution Prevention Plan (SWPPP) to runoff and water quality during construction. However, following the completion of activities, the Project area will not result in increased runoff to Drainages A and B, or affect the water quality. As such, no measures would be required post-construction.

The drainages in the Project site generally enter from the south/southeast and flow in a northerly or northwesterly/westerly direction before leaving the site and flowing onto the Citrus Heights Property (to the north). Flows leaving the Project ultimately discharge into the Santa Ana River (MSHCP Conserved Area). Although the Project would impact riparian/riverine areas, the majority of the natural drainage systems would remain intact such that the volume of flows leaving the Project would be similar to existing conditions.

5.11.2 Lighting

Night lighting shall be directed away from Drainages A and B to protect species within the avoided riparian areas from direct night lighting. If night lighting is required during construction, shielding shall be incorporated to ensure ambient lighting in the riparian areas is not increased.

5.11.3 Noise

During the least Bell's vireo breeding season (March 15 through August 31) the Project shall implement the use of a temporary noise attenuating wall along the Project boundary for all construction-related disturbance that occurs within 100 meters of the Goodding's willow riparian woodland in Drainage B that is occupied by least Bell's vireo.

Additionally, the completed Project will include a permanent noise attenuating solid block wall, at least six feet in height, along the perimeter of the permanent impact boundary that occurs within 70 meters of the least Bell's vireo territory (depicted on Exhibit 7 and Appendix D).

5.11.4 Invasive Species

The Project shall avoid the use of invasive plant species in landscaping, including invasive, non-native plant species listed in Volume I, *Table 6-2* of the MSHCP.

5.11.5 Barriers

The Project shall incorporate barriers, where appropriate to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the avoided riparian areas. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

5.12 Cumulative Impacts to Biological Resources

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project.

Anticipated cumulative impacts are addressed by the MSHCP, which, as currently adopted, addresses 146 "Covered Species" that represent a broad range of habitats and geographical areas within Western Riverside County, including threatened and endangered species and regionally or locally-sensitive species that have specific habitat requirements and conservation and management needs. The MSHCP addresses biological impacts for take of Covered Species within the MSHCP area. Impacts to Covered Species and establishment and implementation of a regional conservation strategy and other measures included in the MSHCP are intended to

address the federal, state, and local mitigation requirements for these species and their habitats. Specifically, Section 4.4 of the MSHCP states that:

> *The MSHCP was specifically designed to cover a large geographical area so that it would protect numerous endangered species and habitats throughout the region. It is the projected cumulative effect of future development that has required the preparation and implementation of the MSHCP to protect multiple habitats and multiple endangered species.*

As the construction of buildings, infrastructure, and all alterations of the land within areas that are outside of the Criteria Area are permitted under the MSHCP (see MSHCP Section 2.3.3), cumulative impacts to biological resources (with the exception of MSHCP non-covered species) would be less than significant provided that the terms of the MSHCP are fully implemented (MSHCP Final EIR/EIS, Section 4.1.6). The Project would be required to pay the MSHCP mitigation fees. The MSHCP database was consulted for the proposed Project and the recommended focused surveys (rare plants, burrowing owl, and least Bell's vireo) were conducted. The proposed Project would comply with the requirements of the MSHCP and thus, would not conflict with its adopted policies.

Of the biological resources present (or potentially present), implementation of the proposed Project was judged to cause potentially significant impacts to least Bell's vireo, loggerhead shrike, and yellow warbler. Of these potentially significant project impacts, the proposed Project has the potential to make a cumulatively considerable contribution to the regional decline of loggerhead shrike. Given the population decline of loggerhead shrike as a breeder in western Riverside County and the extent of habitat being impacted by the proposed Project, it is feasible the Project could make a cumulatively considerable contribution to the regional decline of the species. That being said, loggerhead shrike is a covered species under the MSHCP. Consistency with the Plan would fully mitigate for these potential cumulative impacts under CEQA.

The least Bell's vireo is a listed species, however, given the Project's avoidance of occupied habitat and the status of the species within the region, cumulatively considerable impacts are not expected. Similarly, cumulatively considerable impacts are not expected for yellow warbler.

The proposed Project would remove potential habitat for coastal whiptail and red-diamond rattlesnake, both of which are fully covered under the MSHCP. Any potential cumulative impacts would be mitigated by the Plan.

As stated previously, the Project would not directly remove any bat roosts, hence no cumulative impact would occur.

6.0 MITIGATION/AVOIDANCE MEASURES

The following discussion provides project-specific mitigation/avoidance measures for actual or potential impacts to special-status resources. Significant impacts are as follows:

- Permanent impacts to 0.17 acre of Goodding's willow riparian woodland
- Permanent impacts to 0.20 acre of other riparian habitat (mulefat thickets)
- Permanent impacts to 0.07 acre of state and federal wetlands and temporary impacts to 0.003 acre of wetlands
- Permanent impacts to 0.65 acre of CDFW jurisdiction of which 0.38 acre is riparian habitat, and temporary impacts to 0.02 acre of CDFW jurisdiction of which 0.02 acre is riparian habitat
- Permanent impacts to 0.65 acre of MSHCP Riparian/Riverine areas of which 0.38 acre is riparian habitat, and temporary impacts to 0.02 acre of MSHCP Riparian/Riverine area of which 0.02 acre of riparian habitat

6.1 Burrowing Owl

The Project site contains suitable habitat for burrowing owls; however, burrowing owls were not detected onsite during focused surveys. MSHCP Objective 6 for burrowing owls requires that pre-construction surveys be conducted prior to site grading. As such, the following measure is recommended to avoid direct impacts to burrowing owls and to ensure consistency with the MSHCP.

- **Pre-Construction Survey.** A 30-day pre-construction survey for burrowing owls is required prior to future ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the Project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate in the future with the RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure that burrowing owl have not colonized the site since it was last disturbed. If burrowing owls are found, the same coordination described above will be necessary.

6.2 Least Bell's Vireo

The Project will avoid all areas of occupied habitat and habitat with long-term conservation value for LBV (0.10 acre of Goodding's willow riparian woodland within Drainage B), and therefore exceeds the 90 percent avoidance requirements per the MSHCP. In addition to avoidance, the Project will provide 40 meters of undeveloped landscape adjacent to the avoided habitat. Although this is less than the 100 meters identified in the MSHCP objectives for LBV, the highly incised nature of Drainage B is expected to provide an effective topographical buffer both during and after construction of the Project, including with the implementation of project-design features to address lighting, noise and barriers between the Project and the avoided habitat. Specifically, regarding the potential for indirect impacts to LBV associated with noise during and after construction, the Project will implement the following mitigation measures.

- For construction conducted during the LBV breeding season (March 15 – August 31); prior to conducting any grading or noise-generating Project-related disturbance that may exceed 60 dBA, a temporary noise-attenuating wall will be erected along the portion of the perimeter of the temporary impact boundary that occurs within 100 meters of the occupied LBV habitat within Drainage B (depicted on Exhibit 7).

- As a Project design feature, the completed Project will include a permanent noise attenuating solid block wall, at least six feet in height, along the perimeter of the permanent impact boundary that occurs within 70 meters of the occupied LBV habitat within Drainage B (depicted on Exhibit 7 and Appendix D).

6.3 Bats

The Project site contains habitat (eucalyptus groves) that provides roosting habitat for a maternity colony of canyon bats. To avoid direct and/or indirect impacts to roosting bats, the following mitigation measures are recommended for implementation:

- A qualified biologist will conduct a pre-construction bat roost survey for roosting bats no more than 14 days prior to site disturbance. The pre-construction bat roost survey will consist of a minimum of three bat surveys (conducted consecutively or as determined by the biologist). If roosting bats are detected within the Project footprint, outside of the bat maternity season, the roost tree will be removed in a manner to avoid and/or minimize injury to roosting bats. This may include using mechanical equipment to gently nudge the tree trunk multiple times prior to removal or for palm trees and other species, to de-frond or de-branch the tree using a mechanical lift and gently lower the cut branches to the ground. Regardless of the method, the fallen tree and/or material will be left undisturbed overnight until at least the next morning to give roosting bats time to exit before site disturbance.

- If roosting bats are detected onsite during the maternity season (April 15 through August 14), the Project will avoid the subject roost(s) and incorporate an avoidance buffer (as determined by a qualified biologist) until after the maternity season or until a qualified biologist determines no maternity roosting is occurring. Once the qualified biologist approves removal of the subject roost tree(s), the same tree removal procedures as outlined above will be implemented prior to tree removal.

6.4 Nesting Birds

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

- As feasible, vegetation clearing should be conducted outside of the nesting season, which is generally identified as February 1 through September 15. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within

three days prior to any disturbance of the site, including disking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers around the nests, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests.

6.5 Jurisdictional Waters Including State and Federal Wetlands

As noted above, the Project will impact areas subject to the jurisdiction of the Corps pursuant to Section 404 of the Clean Water Act (including wetlands), Regional Board pursuant to Section 401 of the Clean Water Act and non-federal waters of the state pursuant to the Waste Discharge Requirements of the Porter Cologne Act (including wetlands), CDFW pursuant to Section 1602 of the California Fish and Game Code and the MSHCP Riparian/Riverine policies. The following measure identifies mitigation proposed for impacts to jurisdictional waters including wetlands and riparian habitat. As discussed below, impacts to CDFW and MSHCP Riparian/Riverine areas exceeds impacts to Corps and Regional Board jurisdiction such that mitigation necessary to satisfy CDFW and MSHCP Riparian/Riverine impacts will more than satisfy Corps and Regional Board. See Mitigation Measure 6.5 below for Corps and Regional Board impacts.

The proposed Project will mitigate for permanent impacts to 0.63 acre of MSHCP Riparian/Riverine area of which 0.36 acre is riparian habitat, and temporary impacts to 0.02 acre of MSHCP Riparian/Riverine areas of which 0.02 acre is riparian habitat, resulting in a total of 0.65 acre of Riparian/Riverine of which 0.38 acre is riparian habitat. Because impacts to Corps jurisdiction, which total 0.10 acre of waters of the U.S. of which 0.07 consists of jurisdictional wetlands, and 0.28 acre of Regional Board jurisdiction, of which 0.07 consists of wetlands, are substantially less than impacts to CDFW and MSHCP Riparian/Riverine, mitigation proposed for CDFW and MSHCP Riparian/Riverine areas will provide full compensation for impacts to Corps and Regional Board jurisdiction including to state and federal wetland totaling 0.07 acre.

- **DBESP.** A DBESP analysis will be submitted to the wildlife agencies (USFWS, CDFW) to approve impacts to MSHCP riparian/riverine areas.

- Permanent impacts to 0.63 acre of MSHCP Riparian/Riverine areas and temporary impacts to 0.02 acre (totaling 0.65 acre of impacts) would be mitigated onsite at a ratio of 3:1 (1.95 acres) through a combination of enhancement, rehabilitation, and establishment of riparian habitat including Goodding's willow riparian woodland and mulefat scrub. This would include mitigation for wetland impacts totaling 0.07 acre, which at 3:1 would comprise a total of 0.21 acre of jurisdictional wetlands within the overall 1.95-acre mitigation area. Proposed onsite mitigation locations are depicted in Exhibit 11.

The applicant will have prepared a Habitat Mitigation and Monitoring Plan (HMMP) that will contain the following components to ensure that the proposed mitigation fully compensates for the proposed impacts:

- Maps showing the areas to be restored that would include areas for enhancement, rehabilitation and reestablishment of wetland and riparian habitat, by alliance or habitat

type (including wetlands) to ensure that there is no-net-loss of wetlands associated with the project
- Site Preparation Requirements
- Methods for enhancement and rehabilitation
- Cost table for implementation of the proposed enhancement, rehabilitation and reestablishment
- Inventory of non-native species to be removed including total removal acreage for each non-native species
- Plant palettes for areas of rehabilitation and reestablishment
- Maintenance requirements associated with the proposed enhancement, rehabilitation and reestablishment areas
- Performance standards for the enhancement, rehabilitation, and reestablishment areas
- Monitoring Methods for the enhancement, rehabilitation and reestablishment areas
- Reporting Requirements

7.0 MSHCP CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the proposed Project with respect to compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed Project with respect to the Project's consistency with MSHCP Reserve assembly requirements, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.1 Project Relationship to Reserve Assembly

The proposed Project is not subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process. The Project site is also not located within a MSHCP Criteria Area and will not be subject to Joint Project Review (JPR) by the RCA.

7.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The Project does not contain any vernal pools and there are no vernal pool species associated with the Project. The Project would impact areas subject to the MSHCP Riparian/Riverine policies as set forth in Mitigation Measure 6.5 above. With implementation of Mitigation Measure 6.5, the Project would be in full compliance with the MSHCP Riparian/Riverine policies.

7.3 Protection of Narrow Endemic Plants

Volume I, Section 6.1.3 of the MSHCP requires that within identified Narrow Endemic Plant Species Survey Areas (NEPSSA), site-specific focused surveys for Narrow Endemic Plants Species will be required for all public and private projects where appropriate soils and habitat are present.

The Project site does not occur within a NEPSSA, nor does it support any other special-status plants based on site-specific surveys.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the Conservation Area.

While the Project is not located adjacent to an MSHCP Conservation Area, the measures will serve to address the potential for indirect effects to sensitive, avoided habitats adjacent to the proposed development; such as the Goodding's willow riparian woodland within Drainages A and B. In addition to being a sensitive vegetation community (S3), 0.10 acre of Goodding's willow riparian woodland at the Project site supports the state and federally listed as endangered least Bell's vireo and has the potential to support other sensitive species such as the yellow warbler, pocketed free-tailed bat, and western yellow bat. As a means to address the potential for indirect impacts to the sensitive vegetation community and sensitive species within avoided riparian areas, the Project will implement measures consistent with the MSHCP guidelines to address the following:

- Drainage;
- Lighting;
- Noise;
- Invasive species;
- Barriers;

As discussed in Section 5.0 of this report, the Project will implement applicable measures as it relates to the minimization of adverse indirect impacts on special-status resources within Conserved Lands. The proposed Project will be consistent with *Section 6.1.4* of the MSHCP.

7.5 Additional Survey Needs and Procedures

The proposed Project site occurs within the burrowing owl survey area but does not occur within the amphibian or mammal survey areas, or within the NEPSSA or CAPSSA. Focused burrowing owl surveys were conducted for the proposed Project site, and no burrowing owls were detected. As indicated in Section 6.0 of this report, preconstruction burrowing owl surveys will occur within the 30 days of site disturbance in conjunction with MSHCP requirements.

The proposed Project site contains MSHCP Riparian/Riverine areas, portions of which are occupied by least Bell's vireo; a state and federally listed as endangered species, that is also afforded coverage under the MSHCP. A DBESP analysis will be submitted to the wildlife agencies (USFWS, CDFW) to approve impacts to MSHCP riparian/riverine areas.

7.6 Conclusion of MSHCP Consistency

As outlined above, the proposed Project will be consistent with the biological requirements of the MSHCP; specifically pertaining to the Project's relationship to reserve assembly, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

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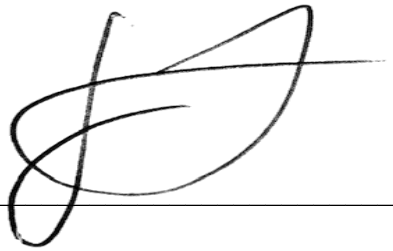
9.0 CERTIFICATION

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

Signed:  Date: March 20, 2024

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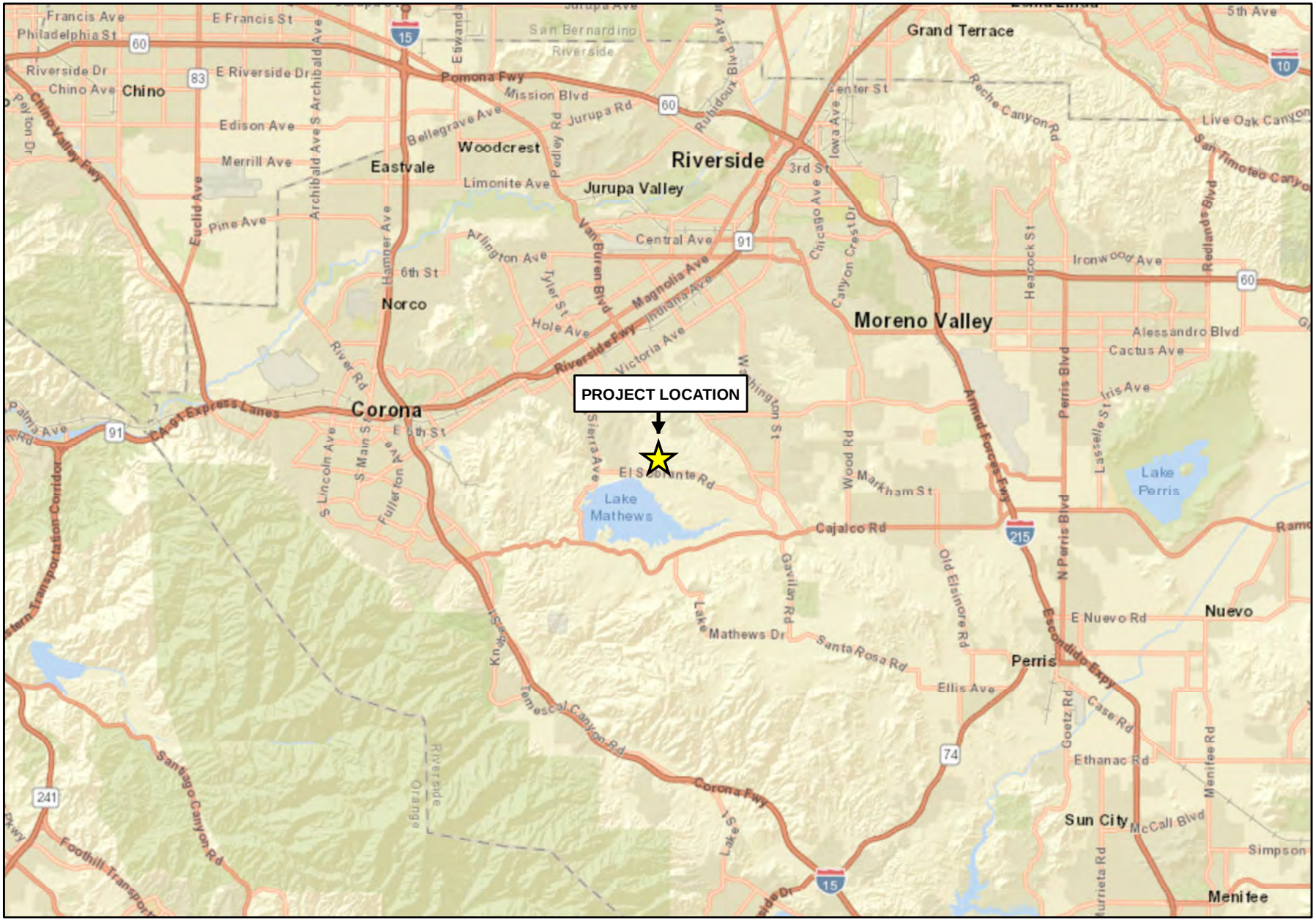


Source: ESRI World Street Map

N

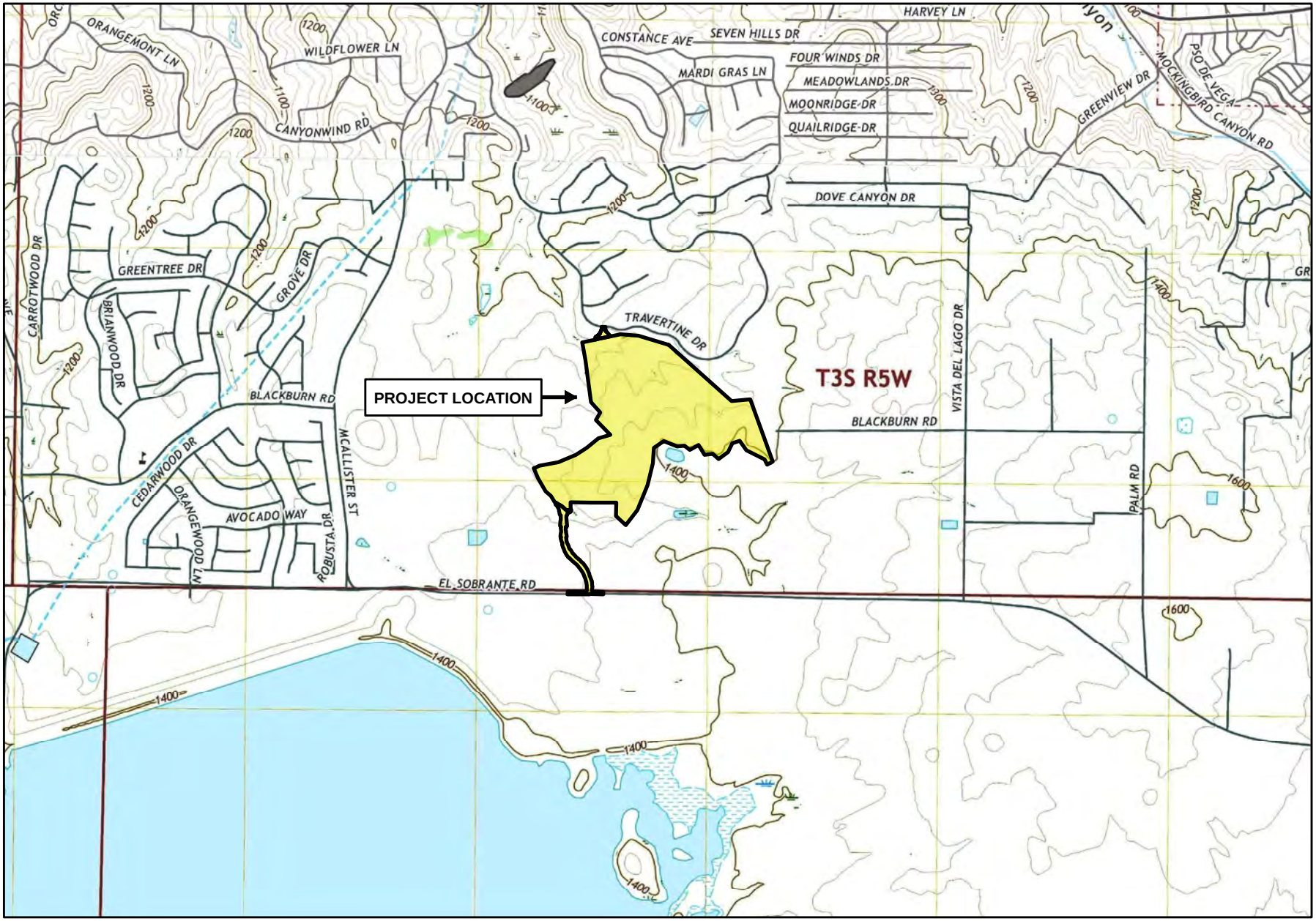
0 2 4 8 Miles

GREEN TREE PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Lake Mathews, CA quadrangle

N

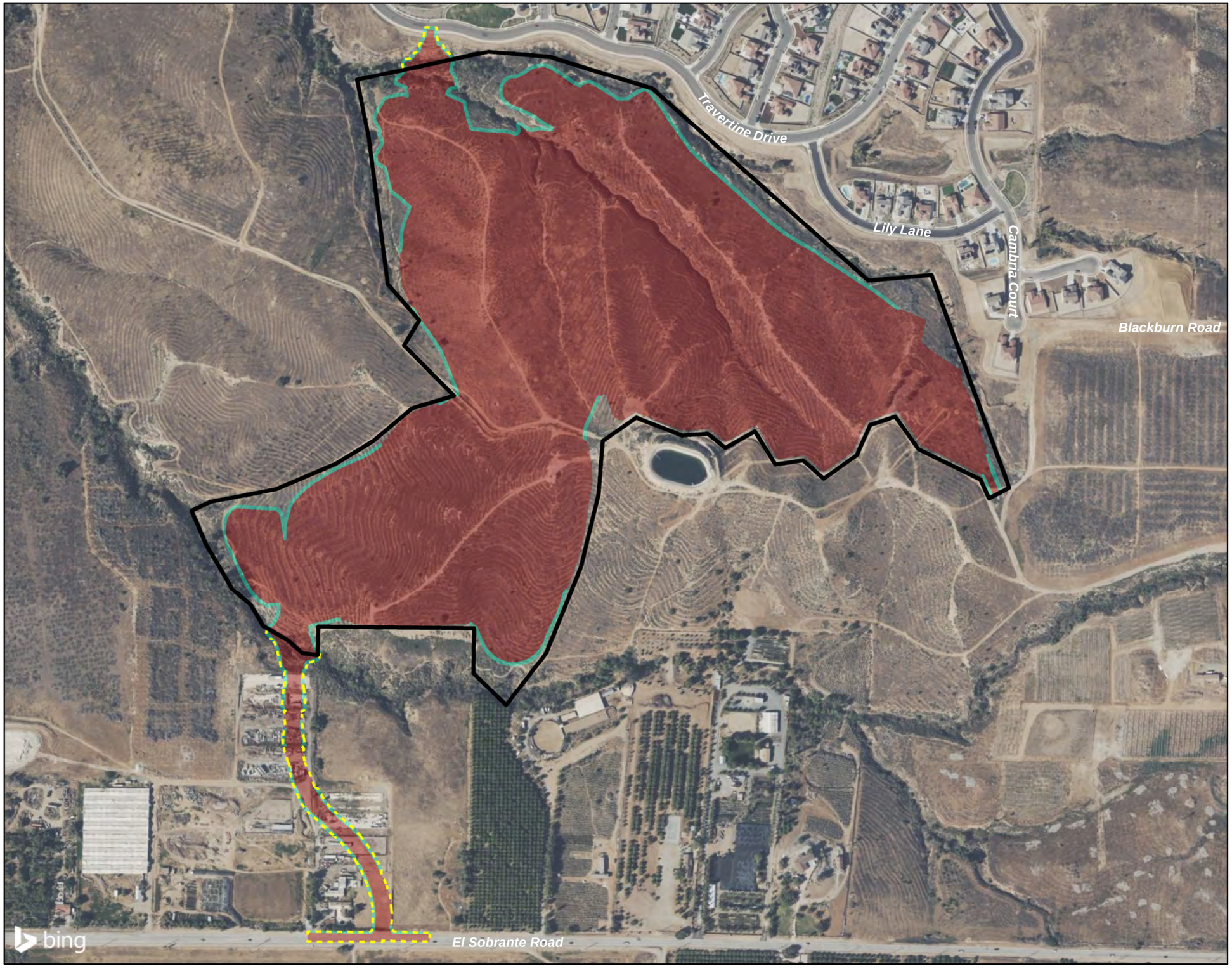
0 1,000 2,000 4,000 Feet

GREEN TREE PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

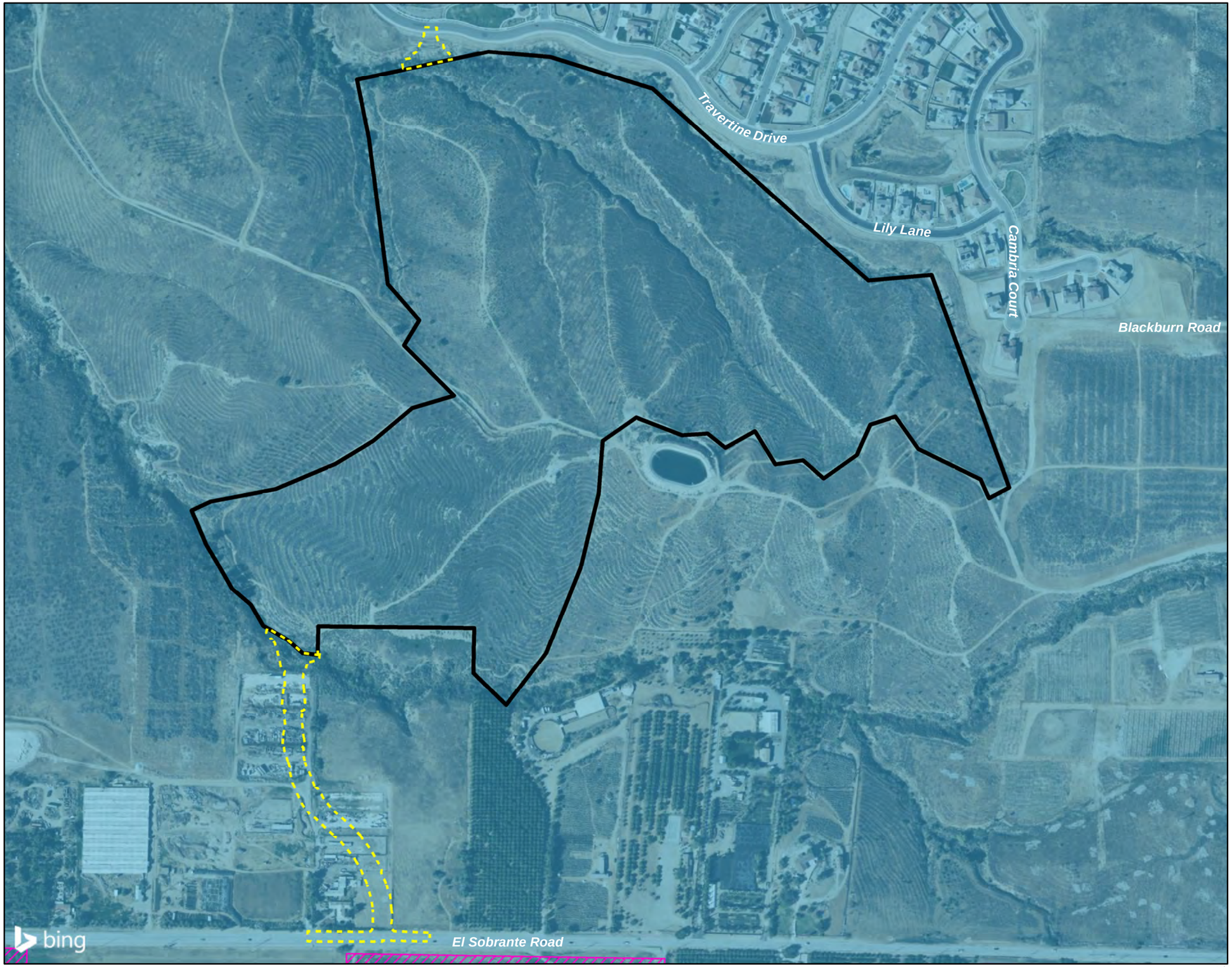
GREEN TREE PROJECT

Aerial Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\1100 AFTER THE REST\1106-02GNTR\GIS\1106-02_SitePlan.mxd



Project - Onsite

Project - Offsite

Burrowing Owl Survey Area

Public/Quasi-Public Lands

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

GREEN TREE PROJECT

MSHCP Overlay Map

GLENN LUKOS ASSOCIATES

Exhibit 4

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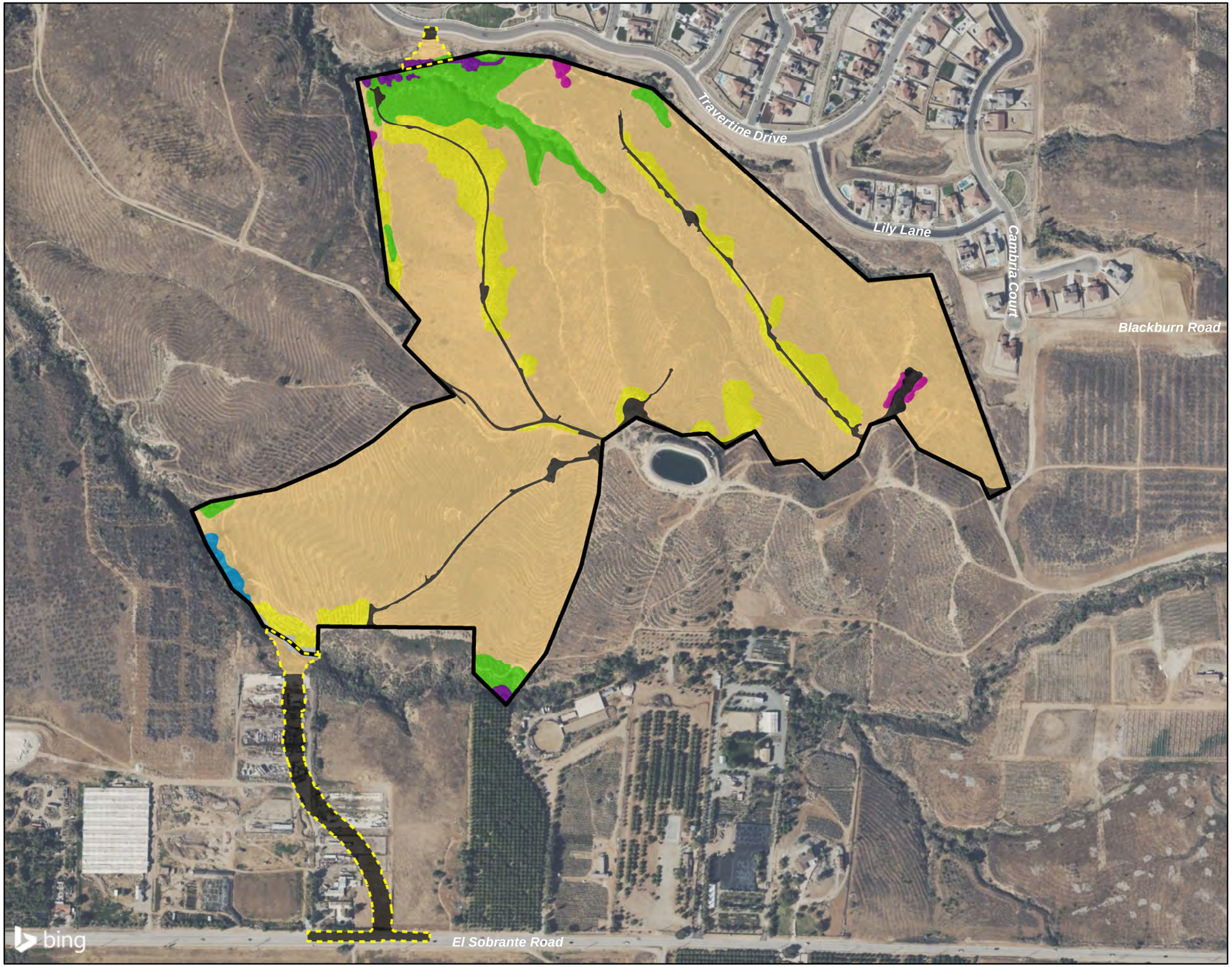


Project - Onsite

Project - Offsite

Mulefat Riparian Scrub

Baccharis salicifolia Shrubland Alliance
(Mulefat thickets)

Riversidean Sage Scrub

Atriplex canescens Shrubland Alliance
(Four wing saltbush scrub)

Encelia farinosa Shrubland Alliance
(Brittle bush scrub)

Willow Riparian Woodland

Salix gooddingii Woodland Alliance
(Goodding's willow riparian woodland)

Non-Native Grassland

Bromus rubens Herbaceous
Semi-Natural Alliance (Red brome grasslands)

Ornamental

Eucalyptus spp. Woodland
Semi-Natural Alliance (Eucalyptus groves)

Schinus molle Woodland
Semi-Natural Alliance (Pepper tree groves)

Disturbed/Developed Land

Disturbed/Developed

0 200 400 800
Feet

1 inch = 400 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

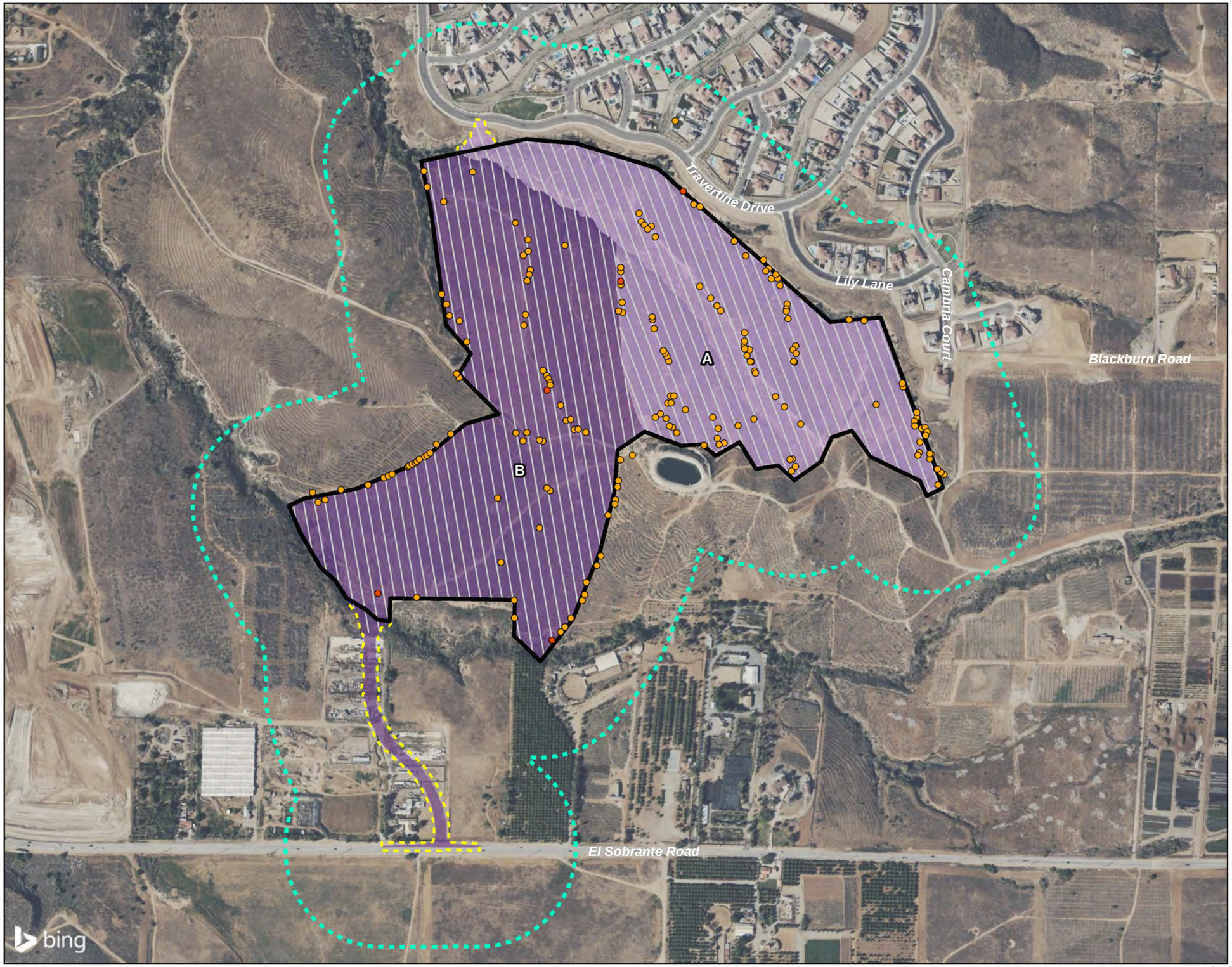
GREEN TREE PROJECT

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 5

X:\1100 AFTER THE REST\1106-02GNTR\GIS\VegetationGIS\1106-02_Vegetation.mxd



Project - Onsite

Project - Offsite

500' Visual Survey Buffer

Survey Area A

Survey Area B

Transect

Burrow

Burrow Complex

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

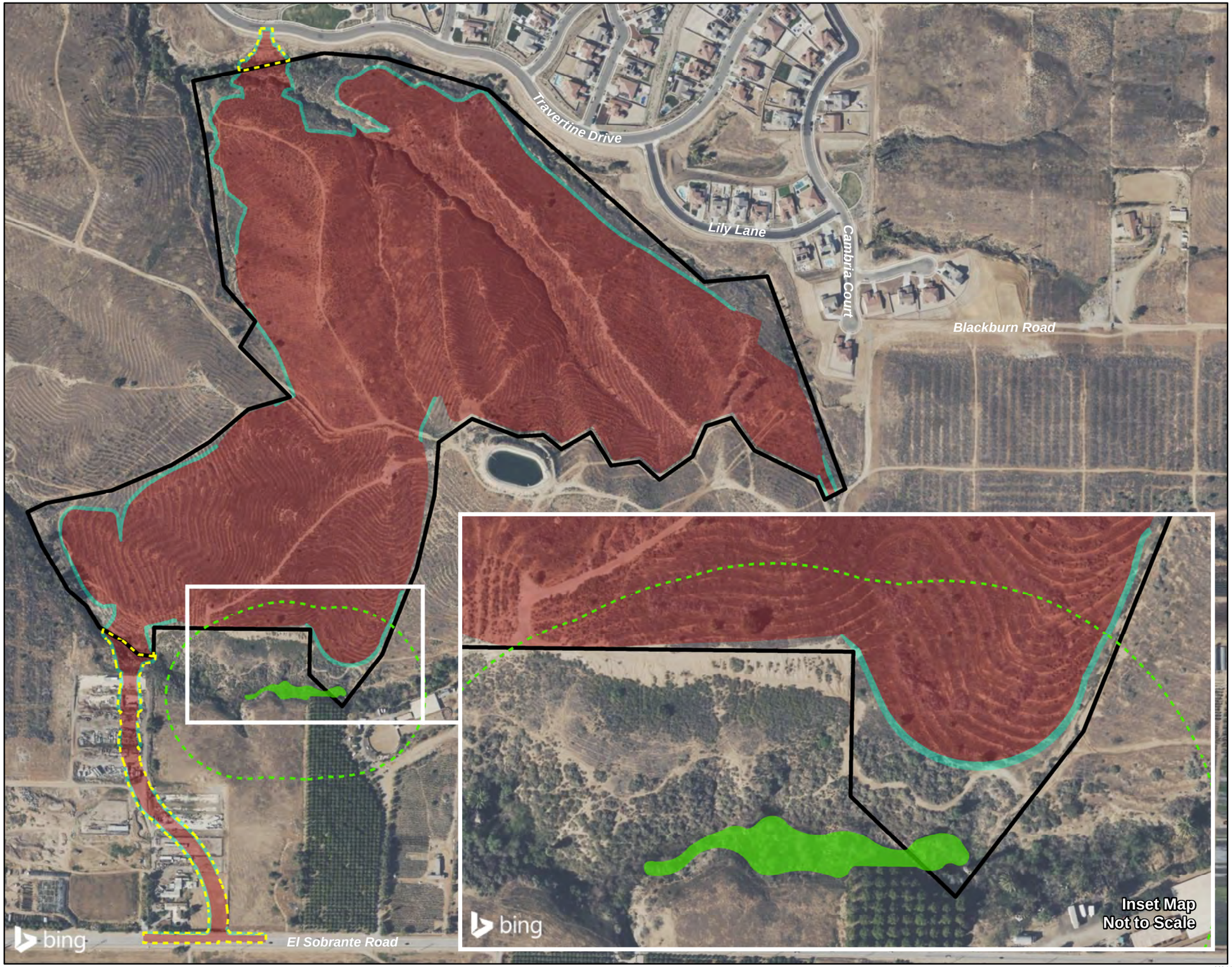
GREEN TREE PROJECT

Burrowing Owl Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 6

X:\1100 AFTER THE REST\1106-02GNTR\GIS\BUOW_GIS\1106-02_BUOW_SurveyArea.mxd



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

Single Male
Least Bell's Vireo Territory

100-meter Buffer

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

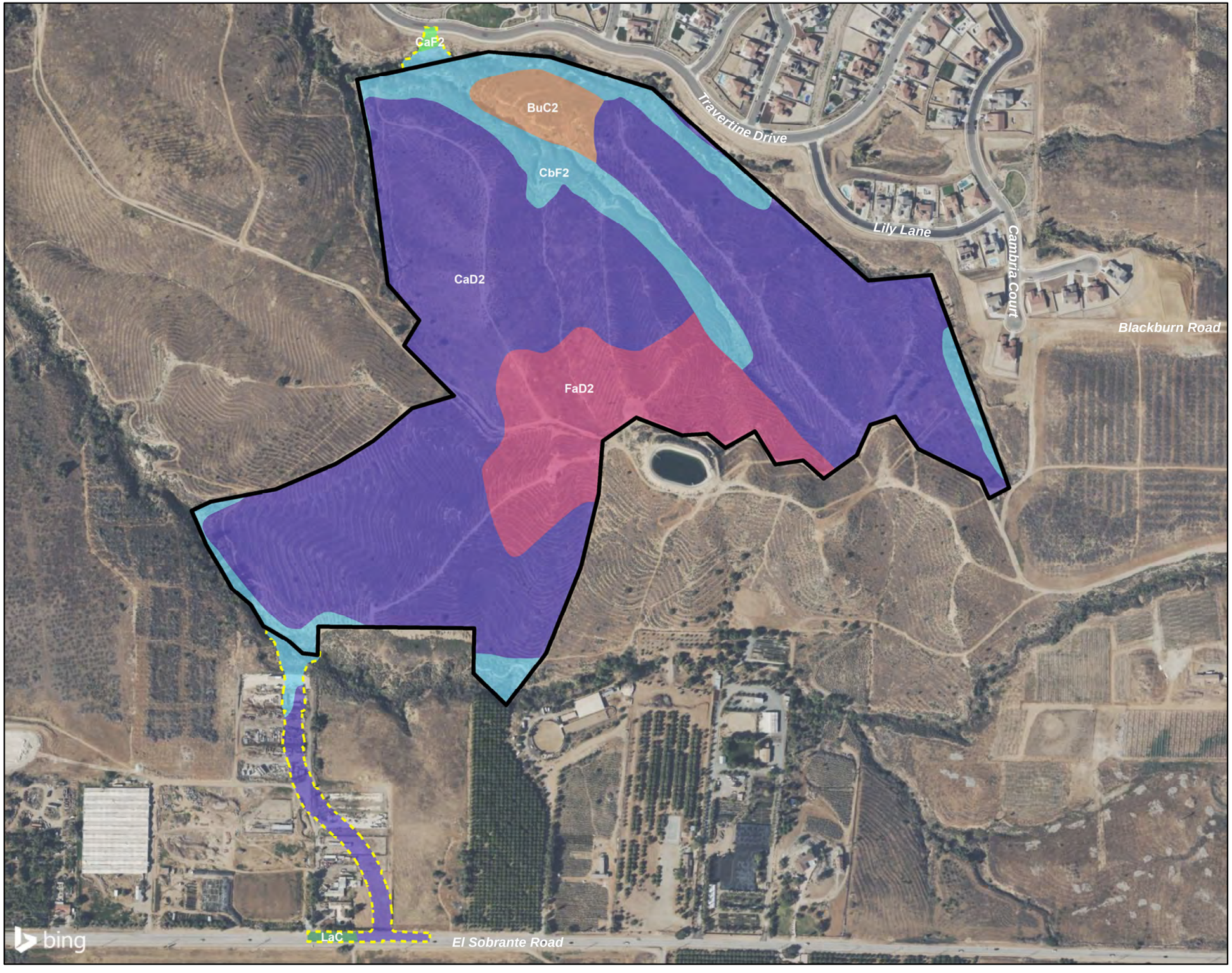
GREEN TREE PROJECT

Least Bell's Vireo Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\1100 AFTER THE REST\1106-02GNTR\GIS\LBV_GIS\1106-02_LBV_SurveyResults.mxd



Project - Onsite

Project - Offsite

BuC2 — Buren fine sandy loam, 2 to 8 percent slopes, eroded

CaD2 — Cajalco fine sandy loam, 8 to 15 percent slopes, eroded

CaF2 — Cajalco fine sandy loam, 15 to 35 percent slopes, eroded

CbF2 — Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded

FaD2 — Fallbrook sandy loam, 8 to 15 percent slopes, eroded

LaC — Las Posas loam, 2 to 8 percent slopes

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: December 6, 2023

GREEN TREE PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 8

X:\1100 AFTER THE REST\1106-02GNTR\GIS\SoilsGIS\1106-02_Soils.mxd

Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

Wetland
Waters of the U.S.

Non-Wetland
Waters of the U.S.

Non-Jurisdictional Feature

Flowline - Not a Part

Width in Feet
(W indicates Wetland)

Sampling Point

Photo Location

N

0 200 400 800
Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 19, 2024

GREEN TREE PROJECT

Potential Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9A

X:\1100 AFTER THE REST\1106-02GNTR\GIS\ImpactsGIS\REV2\1106-02_Corps_ImpactsREV2.mxd

Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

Wetland
Waters of the State

Non-Wetland
Waters of the State

Flowline - Not a Part

Width in Feet
(W indicates Wetland)

Sampling Point

Photo Location

N

0 200 400 800
Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 19, 2024

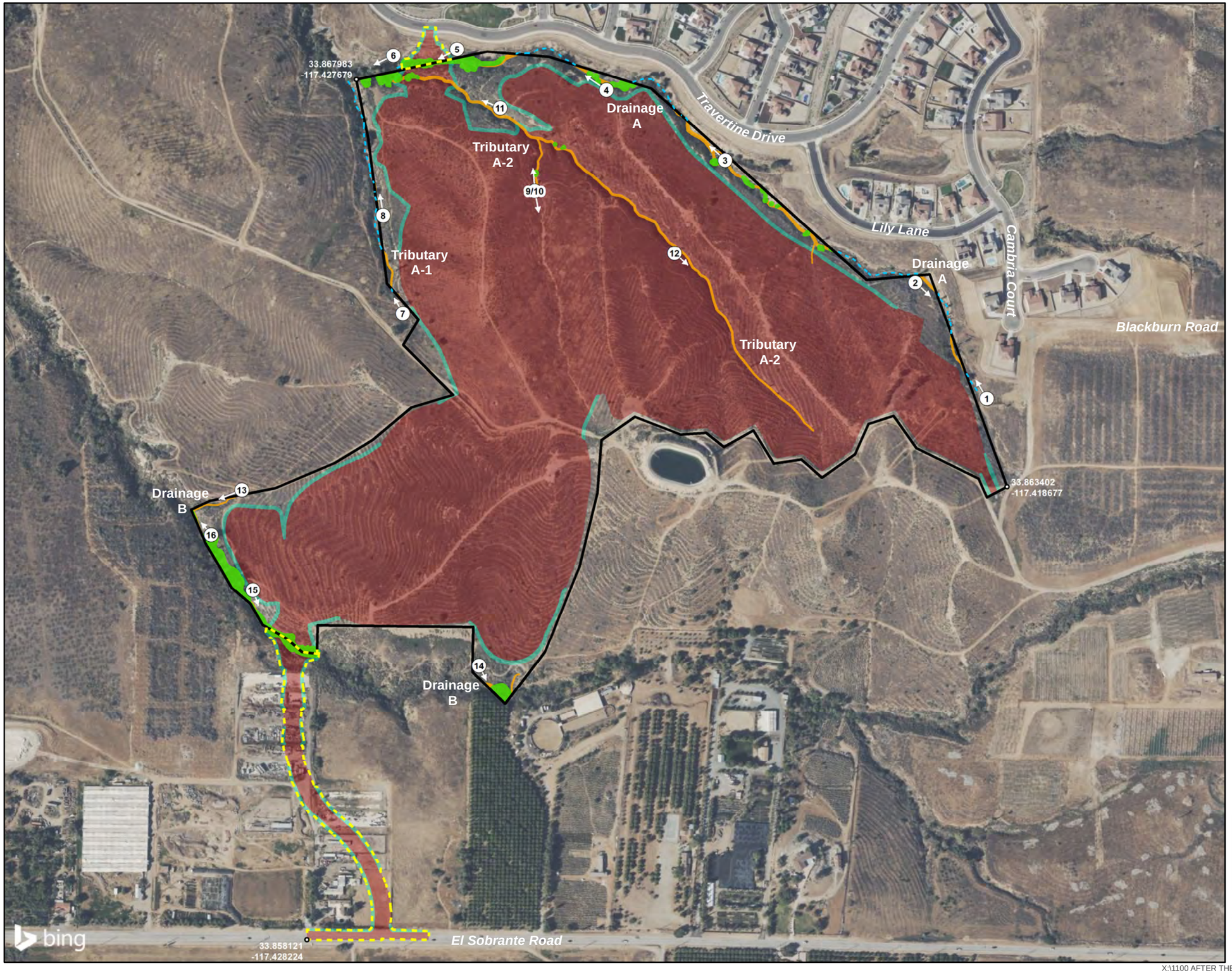
GREEN TREE PROJECT

RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9B

X:\1100 AFTER THE REST\1106-02GNTR\GIS\ImpactsGIS\REV2\1106-02_RWQCB_ImpactsREV2.mxd



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

Riparian Stream

Non-Riparian Stream

Flowline - Not a Part

Photo Location

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 19, 2024

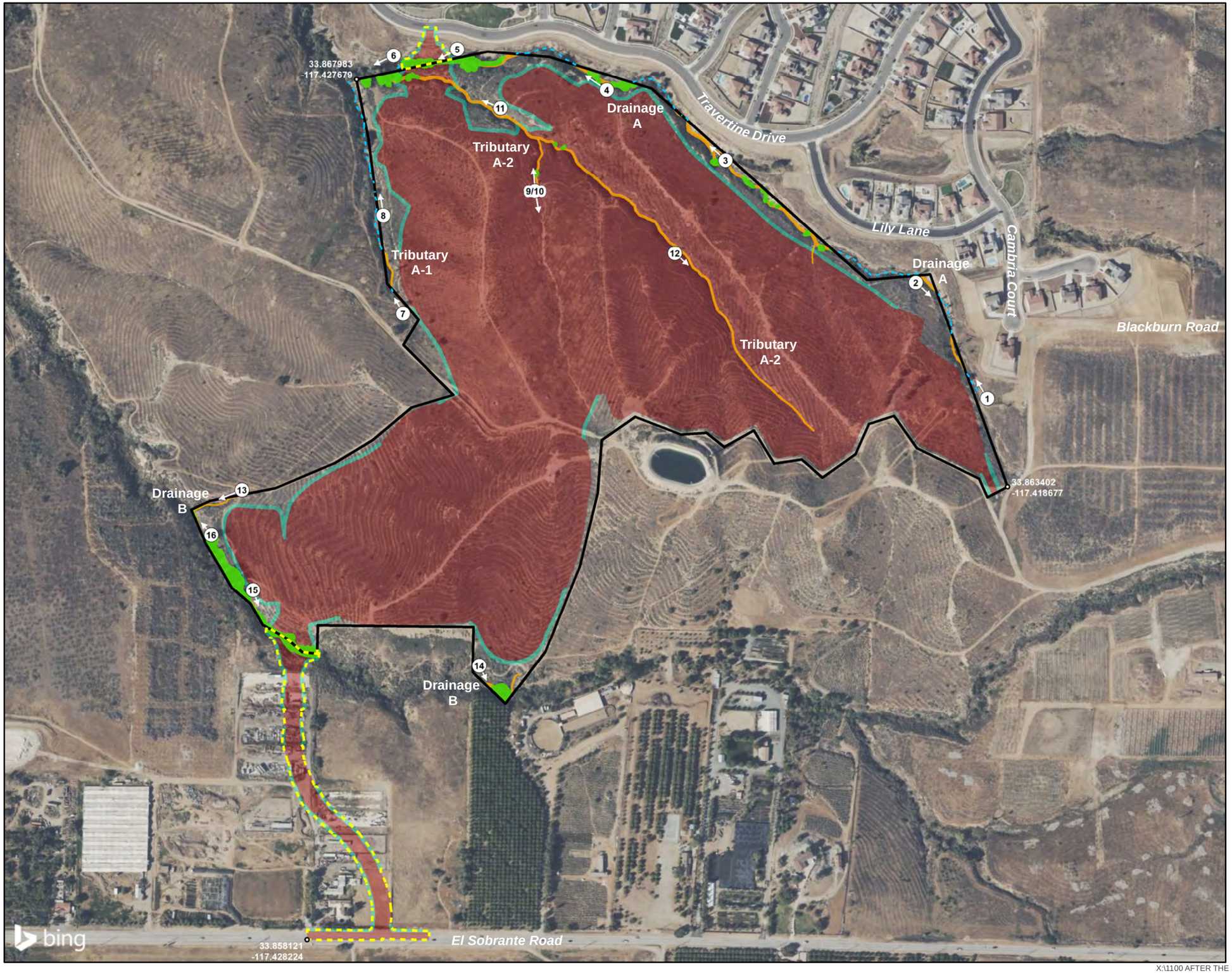
GREEN TREE PROJECT

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 9C

X:\1100 AFTER THE REST\1106-02GNTR\GIS\ImpactsGIS\REV2\1106-02_CDFW_ImpactsREV2_v2.mxd



Project - Onsite

Project - Offsite

Permanent Impact Area

Temporary Impact Area

MSHCP Riparian

MSHCP Riverine

Flowline - Not a Part

Photo Location

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 19, 2024

GREEN TREE PROJECT

MSHCP Riparian/Riverine Map

GLENN LUKOS ASSOCIATES

Exhibit 9D

X:\1100 AFTER THE REST\1106-02GNTR\GIS\ImpactsGIS\REV2\1106-02_MSHCP_JD_ImpactsREV2.mxd

Photograph 1: Looking west across Drainage A from eastern perimeter of Project site. Photo depicts disturbed Goodding's willow woodland, red brome grasslands (foreground), and brittle bush scrub (background).

Photograph 2: Looking south from eastern perimeter of the Project site. Photo depicts brittle bush scrub and four-wing saltbush scrub. Pepper tree grove in background.

Photograph 3: Looking southwest from middle of Project site. Photo depicts red brome grasslands.

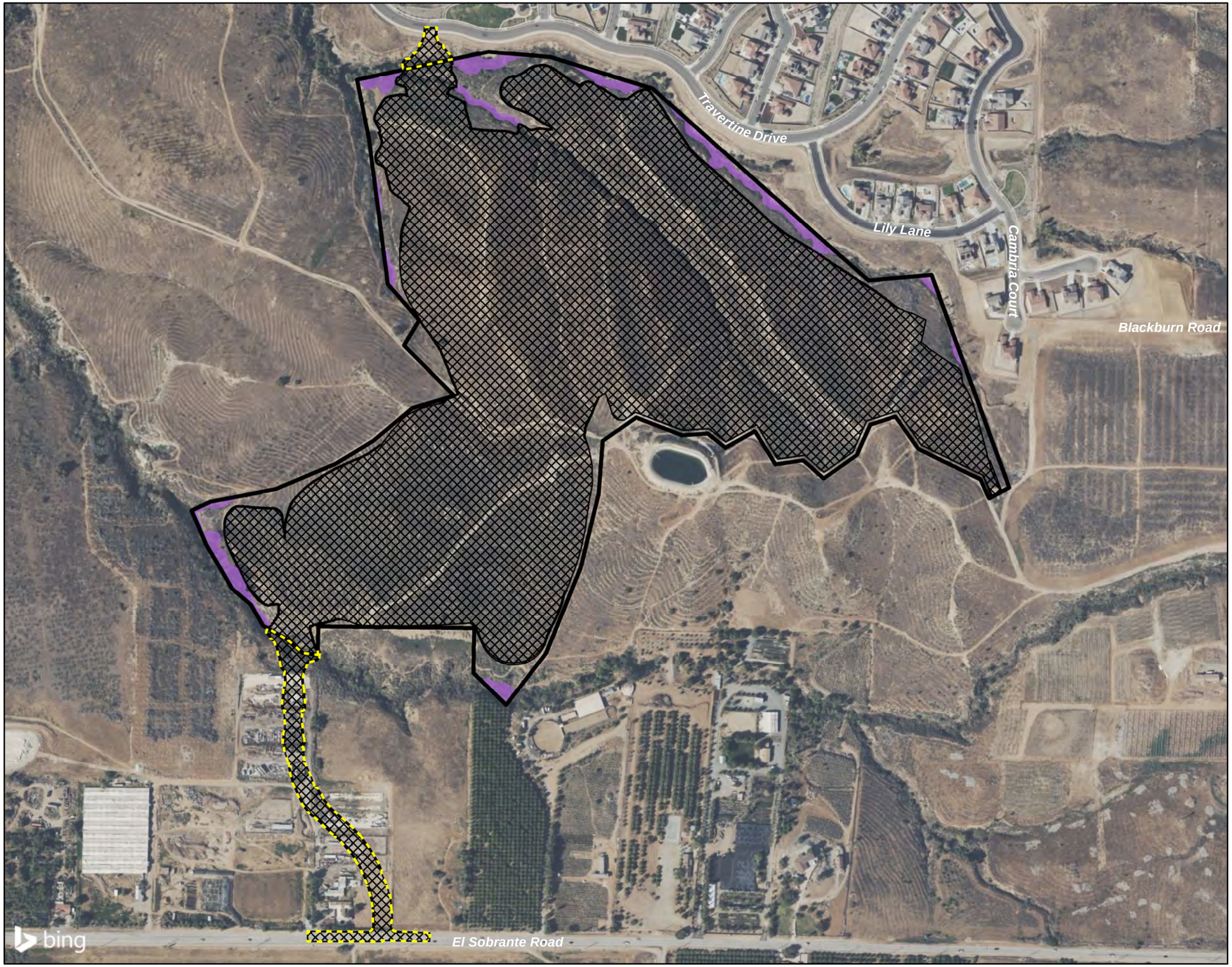
Photograph 4: Looking southwest from western perimeter of the Project site. Photo depicts adjacent orchard operation and Goodding's willow woodland and mulefat thickets in Drainage B.

Photograph 5: Looking southeast from middle of Project site. Photo depicts floral resources (*Amsinckia* sp., *Phacelia* sp., etc) surveyed for Crotch's bumblebee.

Photograph 6: Looking northwest within Drainage A. Photo depicts prevalence of non-native vegetation within the drainage (Washington fan palm, Canary Island palm).

Photograph 7: Looking north from northern portion of the Project site. Photo depicts Pepper trees adjacent to Tributary A-1.

Photograph 8: Looking northwest from western perimeter of the Project site. Photo depicts four-wing saltbush scrub in uplands adjacent to Drainage B.



Project - Onsite

Project - Offsite

Impact Area

Potential Mitigation Areas

N

0 200 400 800

Feet

1 inch = 400 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 14, 2024

GREEN TREE PROJECT

Proposed Mitigation Areas

GLENN LUKOS ASSOCIATES

Exhibit 11

X:\1100 AFTER THE REST\1106-02GNTR\GIS\MitigationGIS\1106-02_Mitigation.mxd

APPENDIX A

APPENDIX A

FLORAL COMPENDIUM

The floral compendium lists all species identified during floristic level/focused plant surveys conducted for the Project site. Taxonomy typically follows The Jepson Manual, 2nd Edition (2012). Common plant names are taken from Baldwin (2012), Munz (1974), and Roberts et al (2004) and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME
MAGNOLIOPHYTA	**FLOWERING PLANTS**
MONOCOTYLEDONES	**MONOCOTS**
AGAVACEAE	**Agave Family**
* *Agave americana*	American century plant
* *Yucca recurvifolia*	curve-leaved yucca
ARACEAE	**Duckweed Family**
Lemna sp.	duckweed
ARECACEAE	**Palm Family**
* *Phoenix canariensis*	Canary Island date palm
Washingtonia filifera	California fan palm
* *Washingtonia robusta*	Mexican fan palm
CYPERACEAE	**Sedge Family**
Schoenoplectus californicus	California bulrush
POACEAE	**Grass Family**
* *Brachypodium distachyon*	purple false brome
* *Bromus diandrus*	ripgut grass
* *Bromus madritensis* subsp. *rubens*	foxtail chess
* *Hordeum murinum*	foxtail barley
* *Hordeum vulgare*	cultivated barley
* *Schismus barbatus*	common Mediterranean grass
TYPHACEAE	**Cat-Tail Family**
Typha domingensis	southern cattail

EUDICOTYLEDONES	EUDICOTS
ADOXACEAE	**Elderberry Family**
Sambucus nigra subsp. *caerulea*	blue elderberry
AMARANTHACEAE	**Amaranth Family**
* *Amaranthus albus*	tumbling pigweed
ANACARDIACEAE	**Sumac Family**
Malosma laurina	laurel sumac
* *Schinus molle*	Peruvian pepper tree
ASTERACEAE	**Sunflower Family**
Ambrosia psilostachya	western ragweed
Anaphalis margaritacea	pearly everlasting
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Baccharis pilularis	coyote brush
Baccharis salicifolia	mulefat
Babccharis salicina	Emory baccharis
* *Carduus pycnocephalus*	Italian thistle
* *Centaurea melitensis*	tocalote
Corethrogyne filaginifolia	California aster
Descurainia pinnata	western tansy mustard
Encelia californica	California brittlebush
Encelia farinosa	desert brittlebush
Ericameria pinifolia	pinebush
Erigeron canadensis	Canada horseweed
Erigeron sp.	fleabane daisy
Helianthus annuus	western sunflower
Heterotheca grandiflora	telegraph weed
* *Lactuca serriola*	prickly lettuce
* *Oncosiphon piluliferum*	stinknet
BORAGINACEAE	**Borage Family**
Amsinckia intermedia	common fiddleneck
Cryptantha intermedia	common cryptantha
Eucrypta chrysanthemifolia	common eucrypta
Pectocarya penicillate	winged combseed
Plagiobothrys collinus var. *californicus*	California popcorn-flower
Phacelia cicutaria	caterpillar phacelia
Phacelia distans	distant phacelia
BRASSICACEAE	**Mustard Family**
* *Brassica nigra*	black mustard
* *Hirschfeldia incana*	summer mustard

*	*Nasturtium officinale*	white water-cress
*	*Sisymbrium irio*	London rocket
CACTACEAE		**Cactus Family**
	Cylindropuntia californica var. *parkeri*	cane cholla
	Opuntia littoralis	coastal prickly pear
CHENOPODIACEAE		**Goosefoot Family**
	Atriplex canescens	four-wing saltbush
*	*Chenopodium album*	lamb's quarters
*	*Salsola tragus*	Russian-thistle
CRASSULACEAE		**Stonecrop Family**
	Crassula connata	sand pygmy weed
CUCURBITACEAE		**Gourd Family**
	Marah macrocarpa	chilicothe
CUPRESSACEAE		**Cypress Family**
	Juniperus californica	California juniper
EUPHORBIACEAE		**Spurge Family**
	Euphorbia albomarginata	rattlesnake spurge
*	*Ricinis communis*	castor bean
FABACEAE		**Legume Family**
*	*Lotus corniculatus*	bird's foot trefoil
*	*Melilotus indicus*	yellow sweetclover
GERANIACEAE		**Geranium Family**
*	*Erodium botrys*	long-beaked filaree
*	*Erodium cicutarium*	red-stemmed filaree
*	*Erodium moschatum*	musk stork's bill
LAMIACEAE		**Mint Family**
*	*Marrubium vulgare*	horehound
	Salvia apiana	white sage
MYRTACEAE		**Myrtle Family**
*	*Eucalyptus* sp.	gum tree
ONAGRACEAE		**Evening Primrose Family**
	Epilobium canum subsp. *canum*	California fuschia
POLYGONACEAE		**Buckwheat Family**
	Eriogonum fasciculatum	California buckwheat

*	*Rumex crispus*	curly dock
ROSACEAE		**Rose Family**
	Adenostoma fasciculatum	chamise
SALICACEAE		**Willow Family**
	Salix exigua	narrow-leaved willow
	Salix gooddingii	Goodding's black willow
	Salix laevigata	red willow
	Salix lasiolepis	arroyo willow
SCROPHULARIACEAE		**Figwort Family**
	Scrophularia californica	California figwort
SIMAROUBACEAE		**Simarouba Family**
*	*Ailanthus altissima*	Tree of heaven
SOLANACEAE		**Nightshade Family**
	Datura wrightii	jimsonweed
	Lycium andersonii	Anderson thornbush
*	*Nicotiana glauca*	tree tobacco
	Solanum sp.	nightshade
TAMARICACEAE		**Tamarisk Family**
*	*Tamarix* sp.	tamarisk
URTICACEAE		**Nettle Family**
	Urtica dioica	stinging nettle
*	*Urtica urens*	dwarf nettle

APPENDIX B

APPENDIX B

FAUNAL COMPENDIUM

The faunal compendium lists species that were either observed within or adjacent to the Project alignment, or that may occur (focused surveys were not conducted for these species, and therefore the species are assumed present). Taxonomy and common names are taken from the California Department of Fish and Game (CDFG) and American Ornithological Union (AOU) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFG for reptiles and amphibians; and CDFG for mammals. + = not detected, but potential to occur.

* = non-native species

REPTILIA	REPTILES
BUFONIDAE	**True Toads**
+ *Anaxyrus boreas halophilus*	southern California toad
COLUBRIDAE	**Colubrid Snakes**
+ *Pituophis catenifer*	gopher snake
HYLIDAE	**Treefrogs and Relatives**
+ *Pseudacris cadaverina*	California chorus frog
Pseudacris hypochondriaca	Baja California chorus frog
PHRYNOSOMATIDAE	**Phrynosomatid Lizards**
+ *Phyrynosoma coronatum*	coast horned lizard
Sceloporus occidentalis	western fence lizard
Uta stansburiana	common side-blotched lizard
TEIIDAE	**Whiptails and Relatives**
Aspidoscelis hyperythra	orange-throated whiptail
+ *Aspidoscelis tigris stejnegeri*	coastal whiptail
VIPERIDAE	**Vipers**
+ *Crotalus ruber*	red-diamond rattlesnake

AVES	BIRDS
ACCIPITERIDAE	**Hawks, Old World Vultures and Harriers**
Accipiter cooperii	Cooper's hawk

	Buteo jamaicensis	red-tailed hawk
	Buteo lineatus	red-shouldered hawk
+	*Buteo regalis*	ferruginous hawk
	Circus cyaneus	northern harrier
+	*Elanus leucurus*	white-tailed kite
AEGITHALIDAE		**Bushtit**
	Psaltriparus minimus	bushtit
ALAUDIDAE		**Larks**
	Eremophila alpestris	horned lark
ANATIDAE		**Swans, Geese, and Ducks**
	Anas platyrhynchos	mallard
APODIDAE		**Swifts**
	Aeronautes saxatalis	white-throated swift
ARDEIDAE		**Herons And Bitterns**
	Ardea Herodias	great blue heron
	Egretta thula	snowy egret
CAPRIMULGIDAE		**Goatsuckers**
	Phalaenoptilus nuttallii	common poorwill
CARDINALIDAE		**Cardinals, Grosbeaks, and Allies**
	Passerina caerulea	blue grosbeak
	Pheucticus melanocephalus	black-headed grosbeak
CATHARTIDAE		**New World Vultures**
	Cathartes aura	turkey vulture
CHARADRIIDAE		**Plovers And Relatives**
	Charadrius vociferus	killdeer
COLUMBIDAE		**Pigeons and Doves**
*	*Columba livia*	rock pigeon
	Streptopelia decaocto	Eurasian collared dove
	Zenaida macroura	mourning dove
CORVIDAE		**Jays, Magpies and Crows**
	Corvus brachyrhynchos	American crow
	Corvus corax	common raven
CUCULIDAE		**Cuckoos**
	Geococcyx californianus	greater roadrunner

EMBERIZIDAE		**Emberizines**
	Aimophila ruficeps	rufous-crowned sparrow
+	*Artemisiospiza nevadensis*	sagebrush sparrow
	Chondestes grammacus	lark sparrow
	Melospiza lincolnii	Lincoln's sparrow
	M*elospiza melodia*	song sparrow
	Passerculus sandwichensis	savannah sparrow
	Pipilo crissalis	California towhee
	Pipilo maculates	spotted towhee
	Spizella passerine	chipping sparrow
	Zonotrichia atricapilla	golden-crowned sparrow
	Zonotrichia leucophrys	white-crowned sparrow
FALCONIDAE		**Caracas and Falcons**
	Falco columbarius	merlin
	Falco peregrinus	peregrine falcon
	Falco sparverius	American kestrel
FRINGILLIDAE		**Finches**
	Carduelis psaltria	lesser goldfinch
+	*Carduelis tristis*	American goldfinch
	Carpodacus mexicanus	house finch
HIRUNDINIDAE		**Swallows**
	Hirundo rustica	barn swallow
	Petrochelidon pyrrhonota	cliff swallow
	Stelgidopteryx serripennis	northern rough-winged swallow
ICTERIDAE		**Blackbirds, Orioles, and Allies**
+	*Euphagus cyanocephalus*	Brewer's blackbird
	Icterus cucullatus	hooded oriole
	Molothrus ater	brown-headed cowbird
	Sturnella neglecta	western meadowlark
LANIIDAE		**Shrikes**
+	*Lanius ludovicianus*	loggerhead shrike
MIMIDAE		**Mockingbirds and Thrashers**
	Mimus polyglottos	northern mockingbird
MOTACILLIDAE		**Pipits**
	Anthus rubescens	American pipit
ODONTOPHORIDAE		**New World Quail**
	Callipepla californica	California quail

PARULIDAE		**Wood Warblers and Relatives**
	Geothlypis trichas	common yellowthroat
	Icteria virens	yellow-breasted chat
	Oreothlypis celata	orange-crowned warbler
	Setophaga petechia	yellow warbler
	Setophaga coronata	yellow-rumped warbler
PICIDAE		**Woodpeckers**
	Colaptes auratus	northern flicker
	Picoides nuttallii	Nuttall's woodpecker
	Picoides pubescens	downy woodpecker
POLIOPTILIDAE		**Gnatcatchers**
	Polioptila caerulea	blue-gray gnatcatcher
PTILOGONOTIDAE		**Silky-flycatchers**
	Phainopepla nitens	phainopepla
STRIGIDAE		**True Owls**
	Bubo virginianus	great horned owl
STURNIDAE		**Starlings**
*	*Sturnus vulgaris*	European starling
TIMALIDAE		**Babblers**
	Chamaea fasciata	wrentit
TROCHILIDAE		**Hummingbirds**
	Calypte anna	Anna's hummingbird
	Calypte costae	Costa's hummingbird
	Selasphorus sasin	Allen's hummingbird
TROGLODYTIDAE		**Wrens**
	Salpinctes obsoletus	rock wren
	Thryomanes bewickii	Bewick's wren
	Troglodytes aedon	house wren
TYRANNIDAE		**Tyrant Flycatchers**
	Empidonax difficilis	Pacific-slope flycatcher
	Empidonax traillii	willow flycatcher
	Myiarchus cinerascens	ash-throated flycatcher
	Sayornis nigricans	black phoebe
	Sayornis saya	Say's phoebe
	Tyrannus verticalis	western kingbird
	Tyrannus vociferans	Cassin's kingbird

TYTONIDAE		**Barn Owls**
	Tyto alba	barn owl
VIREONIDAE		**Vireos**
	Vireo bellii pusillus	least Bell's vireo
	Vireo gilvus	warbling vireo

MAMMALIA

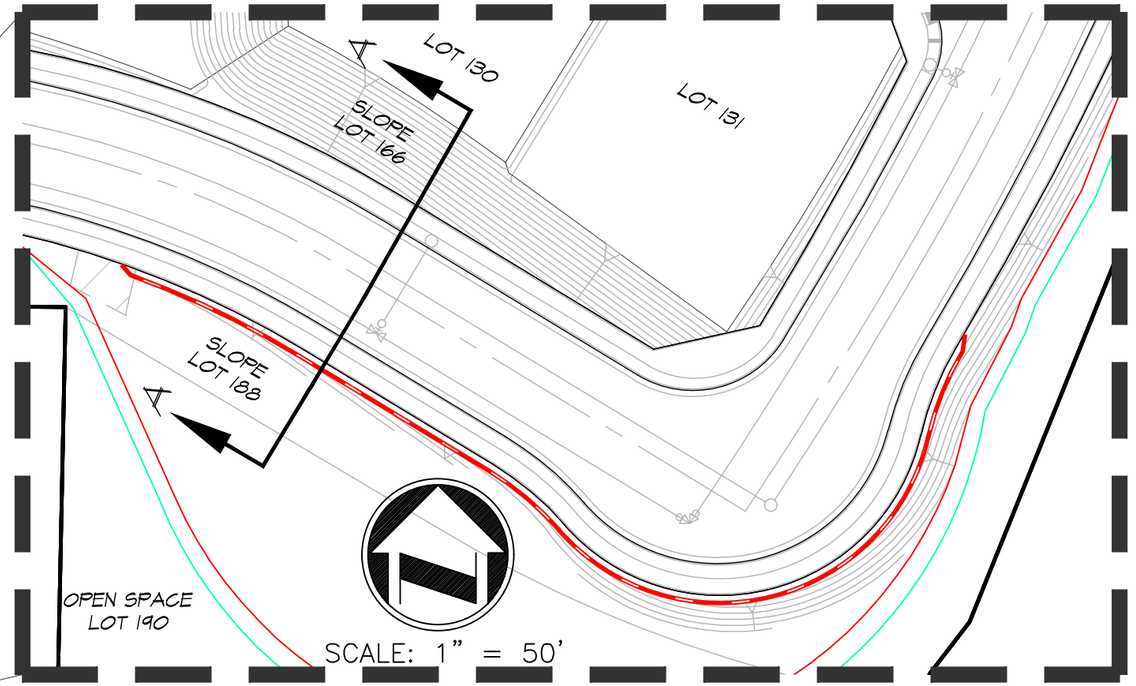
MAMMALS

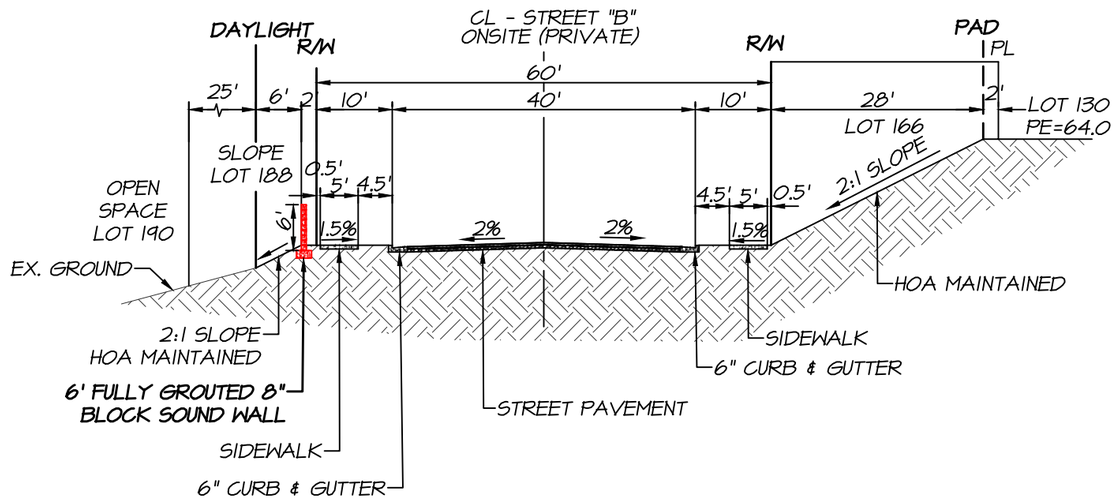
CANIDAE		**Foxes, Wolves And Allies**
*	*Canis familiaris*	feral dog
	Canis latrans	coyote
DIDELPHIDAE		**Opossums**
*	*Didelphis virginiana*	Virginia opossum
FELIDAE		**Cats**
+	*Lynx rufus*	bobcat
GEOMYIDAE		**Pocket Gophers**
	Thomomys bottae	Botta's pocket gopher
HETEROMYIDAE		**Pocket mice**
+	*Chaetodipus fallax*	Northwestern San Diego pocket mouse
+	*Dipodomys simulans*	Dulzura kangaroo rat
+	*Dipodomys stephensi*	Stephens' kangaroo rat
LEPORIDAE		**Rabbits And Hares**
	Lepus californicus bennettii	San Diego black-tailed jackrabbit
	Sylvilagus audubonii	desert (Audubon's) cottontail
MOLOSSIDAE		**Free-tailed Bats**
	Eumops perotis	western mastiff bat
	Nyctinomops femorosaccus	pocketed free-tailed bat
	Tadarida brasiliensis	Mexican free-tailed bat
MURIDAE		**Rats, Mice, Voles, Lemmings**
	Neotoma fuscipes	dusky-footed woodrat
	Neotoma lepida intermedia	San Diego desert woodrat
+	*Peromyscus maniculatus*	deer mouse
PROCYONIDAE		**Raccoons And Allies**
	Procyon lotor	raccoon

SCIURIDAE	**Squirrels, Chipmunks, And Marmots**
Spermophilus beecheyi	California ground squirrel
VESPERTILIONIDAE	**Evening Bats**
Eptesicus fuscus	big brown bat
Myotis californicus	California myotis
Myotis yumanensis	Yuma myotis
Parastrellus hesperus	canyon bat

APPENDIX C

TTM38605 BIOLOGICAL SOUND WALL EXHIBIT





SECTION A-A
SCALE: 1" = 20'

PREPARATION DATE:MARCH 2024

PLANS PREPARED BY:
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0 500 1500
250 1000 2000
SCALE: 1" = 500'

LEGEND

6' HIGH FULLY GROUTED 8" BLOCK SOUND WALL
TEMPORARY DISTURBANCE LIMITS
PERMANENT DISTURBANCE LIMITS

APPENDIX D

TTM 38605 SITE PLAN

PREPARED DATE: MARCH 20, 2024

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0 100 200 400
SCALE: 1" = 100'