HELIX Environmental Planning

# The Glen Ivy Senior Community Project

## General Biological Resource Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

November 3, 2021 | 00821.00016.001

*Prepared for:*

**County of Riverside**
Case Number: CUP200011
CEQA Case Number: CEQ200037
County Staff Contact: Russell Brady

*Prepared for:*

**T&B Planning**
Joel Morse
3200 El Camino Real, Suite 100
Irvine, CA 92602

*Prepared by:*

**HELIX Environmental Planning, Inc.**
7578 El Cajon Boulevard
La Mesa, CA 91942

This page intentionally left blank

# The Glen Ivy Senior Community Project

## General Biological Resource Assessment and Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

*Prepared for:*

**County of Riverside**
Case Number: CUP200011
CEQA Case Number: CEQ200037
County Staff Contact: Russell Brady

*Prepared for:*

**T&B Planning**
Joel Morse
3200 El Camino Real, Suite 100
Irvine, CA 92602

*Prepared by:*

**HELIX Environmental Planning, Inc.**
7578 El Cajon Boulevard
La Mesa, CA 91942

November 3 2021 | 00821.00016.001

This page intentionally left blank

# TABLE OF CONTENTS

**Section** **Page**

# TABLE OF CONTENTS

# TABLE OF CONTENTS (cont.)



**LIST OF APPENDICES**

# TABLE OF CONTENTS (cont.)

## LIST OF FIGURES



## LIST OF TABLES

# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AFSS | alluvial fan sage scrub |
| amsl | above mean sea level |
| APN | Assessor's Parcel Number |
| BMP | Best Management Practice |
| BUOW | Burrowing Owl |
| CASSA | Criteria Area Species Survey Area |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| CFG | California Fish and Game |
| CNDDB | California Natural Diversity Database |
| CNPS | California Native Plant Society |
| County | County of Riverside |
| CWA | Clean Water Act |
| DBESP | Determination of Biologically Equivalent or Superior Preservation |
| Dudek | Dudek & Associates |
| HELIX | HELIX Environmental Planning, Inc. |
| LDMF | Local Development Mitigation Fee |
| MBTA | Migratory Bird Treaty Act |
| MSHCP | Multiple Species Habitat Conservation Plan |
| NEPS | Narrow Endemic Plant Species |
| NEPSSA | Narrow Endemic Plant Species Survey Area |
| NPPA | Native Plant Protection Act |
| OHWM | Ordinary High Water Mark |
| Project | Glen Ivy Senior Community |
| PQP | public quasi-public |
| RCA | Western Riverside County Regional Conservation Authority |
| ROWD | report of waste discharge |
| RWQCB | Regional Water Quality Control Board |
| SAA | Streambed Alteration Agreement |
| SKRHCP | Stephens' Kangaroo Rat Habitat Conservation Plan |
| TNW | Traditional Navigable Water |

# ACRONYMS AND ABBREVIATIONS (cont.)

| | |
|---|---|
| USACE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geologic Survey |
| UWIG | Urban/Wildlands Interface Guidelines |

| | |
|---|---|
| **Report Date:** | November 3, 2021 |
| **Title:** | General Biological Resources Assessment and Western Riverside Multiple Species Habitat Conservation Plan Consistency Analysis for the Glen Ivy Senior Community Project |
| **Project Location:** | The approximately 13.63-acre study area is located southwest of the intersection of Trilogy Parkway and Temescal Canyon Road, in the community of Glen Ivy, unincorporated Riverside County, California. The site is located within the U.S. Geological Survey (USGS) 7.5-minute Lake Matthews quadrangle map in Section 3, Township 5 South, Range 6 West. |
| **Assessor's Parcel Numbers:** | 290-190-083, 290-190-084, and 290-190-027 |
| **Owner/Applicant:** | Mr. Joel Morse<br>T&B Planning, Inc.<br>3200 El Camino Real, Ste 100<br>Irvine, CA 92602 |
| **Principal Investigator:** | HELIX Environmental Planning, Inc.<br>7578 El Cajon Blvd.<br>La Mesa, CA 91942<br>(619) 462-1515 |
| **Report Summary:** | The approximately 13.63 acre study area was surveyed for burrowing owl (*Athene cunicularia*), MSHCP Riparian/Riverine and Vernal Pool resources, rare plants, and jurisdictional features. No burrowing owls, riparian/riverine, vernal pools, or rare plants were observed on the study area. |
| **Report Preparers:** | Robert Hogenauer (562) 537-2426<br>Beth Martinez (619) 462-1515 |
| **Field Personnel**: | Robert Hogenauer (562) 537-2426 |

This page intentionally left blank

# EXECUTIVE SUMMARY

The Glen Ivy Senior Community development is located within the Temescal Canyon Area Plan of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) but is not with a criteria cell or subunit. Proposed or existing MSHCP Cores and Linkages do not occur within the Study Area. Surveys conducted within the study area include an aquatic resource delineation, Riparian/Riverine and Vernal Pool habitat assessment, rare plant surveys, burrowing owl survey, and an oak tree survey. A small isolated drainage occurs in the southwest quarter of the property, but no MSHCP Riparian/Riverine species were observed. The pipeline alignment would result in a minimal amount of impacts to alluvial fan sage scrub and Coldwater Creek.

Proposed impacts are to 0.155 acre California Department of Fish and Wildlife (CDFW)/MSHCP habitat, 0.116 acre Santa Ana Regional Water Quality Control Board (RWQCB) jurisdiction, and 0.04 acre United States Army Corps of Engineers (USACE) habitat. Mitigation is proposed to occur via purchase of credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies, for permanent impacts. Temporary impacted areas will be restored to pre project contours with a one-time seed application installed, along with a 1:1 purchase of restoration credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies to account for temporal loss.

This page intentionally left blank

# 1.0 INTRODUCTION

The Glen Ivy Senior Community project study area is located in the community of Glen Ivy, unincorporated Riverside County (County), California (Figure 1, *Regional Location*). The project is located at the southwest corner of Trilogy Parkway and Temescal Canyon Road (Figure 2, *Aerial Vicinity*, and Figure 3, *Aerial Photograph*). The purpose of this report is (1) to document the results of a biological resource technical study, and (2) analyze the potential impacts of the project pursuant to the requirement of the adopted Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; Dudek and Associates [Dudek] 2003), and the California Environmental Quality Act (CEQA). As the project is located within unincorporated Riverside County, the County is the CEQA lead agency. The proposed project consists of the development of a residential senior community and associated infrastructure.

## 1.1 PROJECT AREA

- The study area includes three Assessor's Parcel Numbers (APNs) (290-190-083, 290-190-084 and 290-190-027).
- The study area covers 13.63 acres and includes:
    - Two on-site project APNs;
    - the undeveloped land between the APN property line and adjacent roads (Trilogy Parkway and Temescal Canyon Road);
    - land south of the APN where recent grading was done by Riverside Flood Control; and
    - One APN for the land on the east side of Temescal Canyon Road adjacent to Coldwater Creek.
- Required improvements necessary for the project include grading within the right of way of the adjacent roads, grading of ingress and egress access points to the development, and installation of underground pipe and associated outfall structure for the water quality basin discharge.
- The proposed project does not require off-site staging areas.
- Minor impacts are proposed along the edge of Coldwater Creek.

## 1.2 PROJECT DESCRIPTION

The project proposes to develop a Senior Care Facility (Figure 4, *Site Plan*). The facility consists of approximately 184 independent living and assisted living units, 32 Memory Care units, parking, storage, and other associated infrastructure. The project also includes a 16,000 square foot water quality basin and an approximately 125-foot long flood wall adjacent to the southeast corner of the project. The basin out flow is situated on the edge of Coldwater Creek. The project does not include fuel modification zones as the property is surrounded by developments or existing roadways.

The outfall for the water quality basin is required to occur at an elevation of 1,080 feet above mean sea level (amsl). Due to the numerous underground utilities already occurring within Temescal Canyon Road, the pipeline for the outfall structure is required to cross Temescal Canyon Road south of the property. Several alternatives were considered for the proposed location of the outfall structure with the preferred location resulting in the least impacts to sensitive biological resources. The Riverside Flood Control District and the Riverside County Transportation Department have specific requirements regarding the outfall structure and associated maintenance access road that have severally limited the size and location of the facility.

## 1.3 GENERAL SETTING

The project site is located on a parcel historically used for spoils piles, resulting in a rolling terrain and a significant amount of disturbed habitat. The majority of the trees on-site are non-native. The project is bordered by a recently constructed flood control facility to the south, an RV Park to the west, a golf course and a lot proposed for construction of a church to the north, and a narrow strip of undeveloped land associated with Coldwater Creek and residential development to the east.

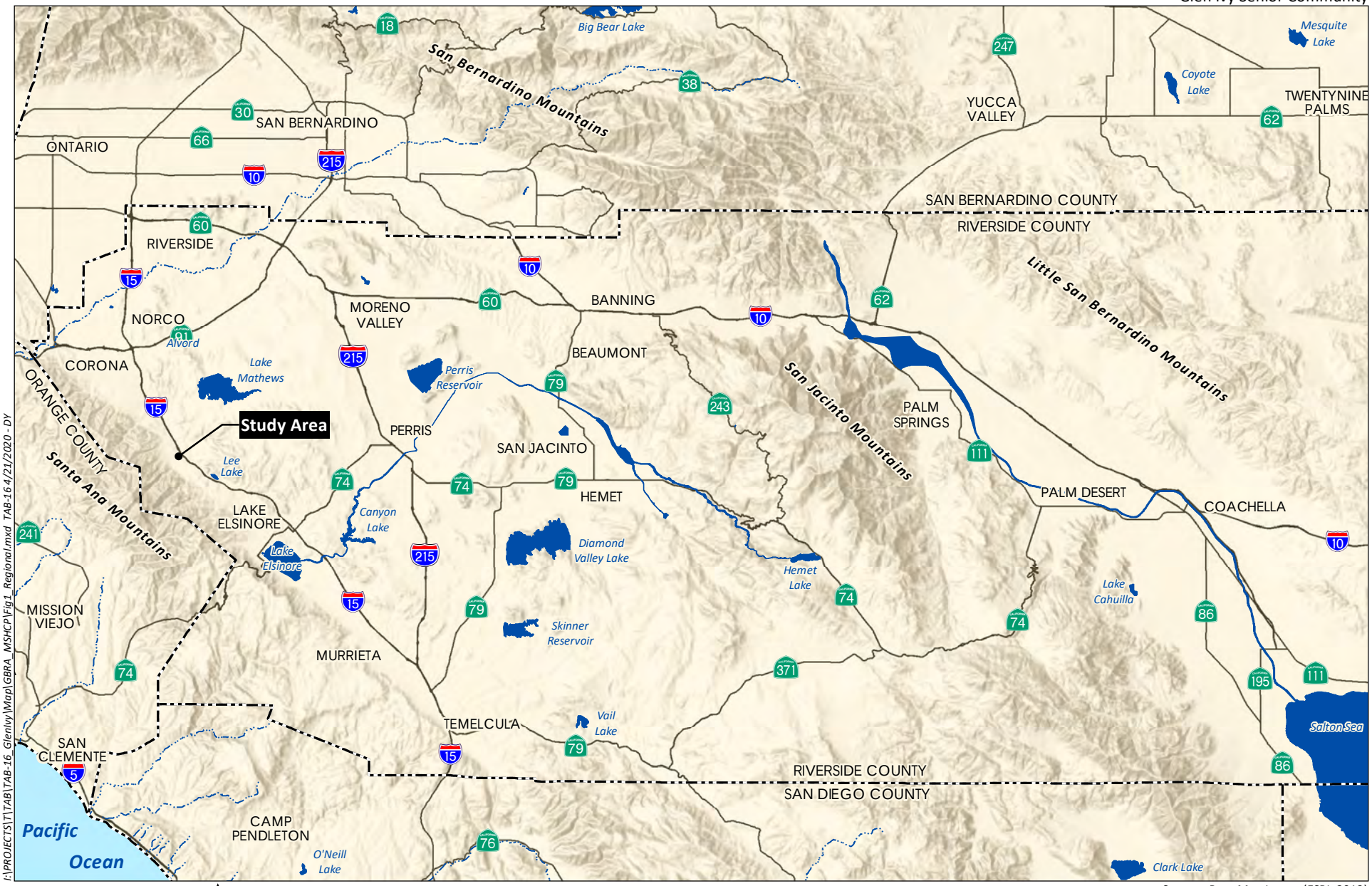
## 1.4 SOILS

The U.S. Department of Agriculture (USDA) web soil survey was reviewed for the type of soils occurring on the study area (USDA 2020). Soils on the study area are comprised of four types of sandy loam. These soils are Cortina gravelly coarse sandy loam, Garretson gravelly very fine sandy loam, Garretson very fine sandy loam, and Cortina gravelly loamy sand. Additionally, terrace escarpments occur along Coldwater Creek.

## 1.5 NOMENCLATURE AND LITERATURE REVIEW

Nomenclature used in this report generally follows MSHCP conventions. Vegetation community classifications follow Holland (1986) and the MSHCP (Dudek 2003). Latin names of plants follow Baldwin et al. (2012), and common names follow the California Native Plant Society (CNPS; 2020). Sensitive plant and animal status are taken from the California Natural Diversity Database (CNDDB) of the California Department of Fish and Wildlife (CDFW; 2020) and CNPS (2020). Fauna nomenclature follows Emmel and Emmel (1973) for butterflies, Taggart (2014) for amphibians and reptiles, American Ornithologists' Union (2018) for birds, and Baker et al. (2003) for mammals.

HELIX Environmental Planning, Inc. (HELIX) reviewed regional planning documents, Google Earth aerials (2020), Web Soil Survey (U.S. Department of Agriculture 2019), and sensitive species database records, including the Inventory of Rare and Endangered Plants of California (CNPS 2020), and CNDDB (CDFW 2020). A one-quadrangle database search was conducted on CNPS, comprised of the Lake Mathews quadrangle. A CNDDB search was conducted within a two-mile radius of the study area. In addition, the MSHCP (Dudek 2003) and the Western Riverside County Regional Conservation Authority's (RCA) MSHCP Information Tool (2020) were consulted to determine project compliance with the MSHCP.




I:\PROJECTS\T\TAB\TAB-16 Glenlvy\Map\GBRA_MSHCP\Fig1 RegionalLmxd TAB-16 4/21/2020 - DY

0 10 Miles

Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

# Regional Location

Figure 1


I:\PROJECTS\TI\TAB\TAB-16_GlenIvy\Map\GBRA_MSHCP\Fig2_AerialVicinity.mxd TAB-16 4/6/2021 -DY

0 1,000 Feet

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# Aerial Vicinity

Figure 2


I:\PROJECTS\TTAB\TAB-16 Glenlvy\Map\GBRA_MSHCP\Fig3_Aerial.mxd TAB-16 4/6/2021 - DY

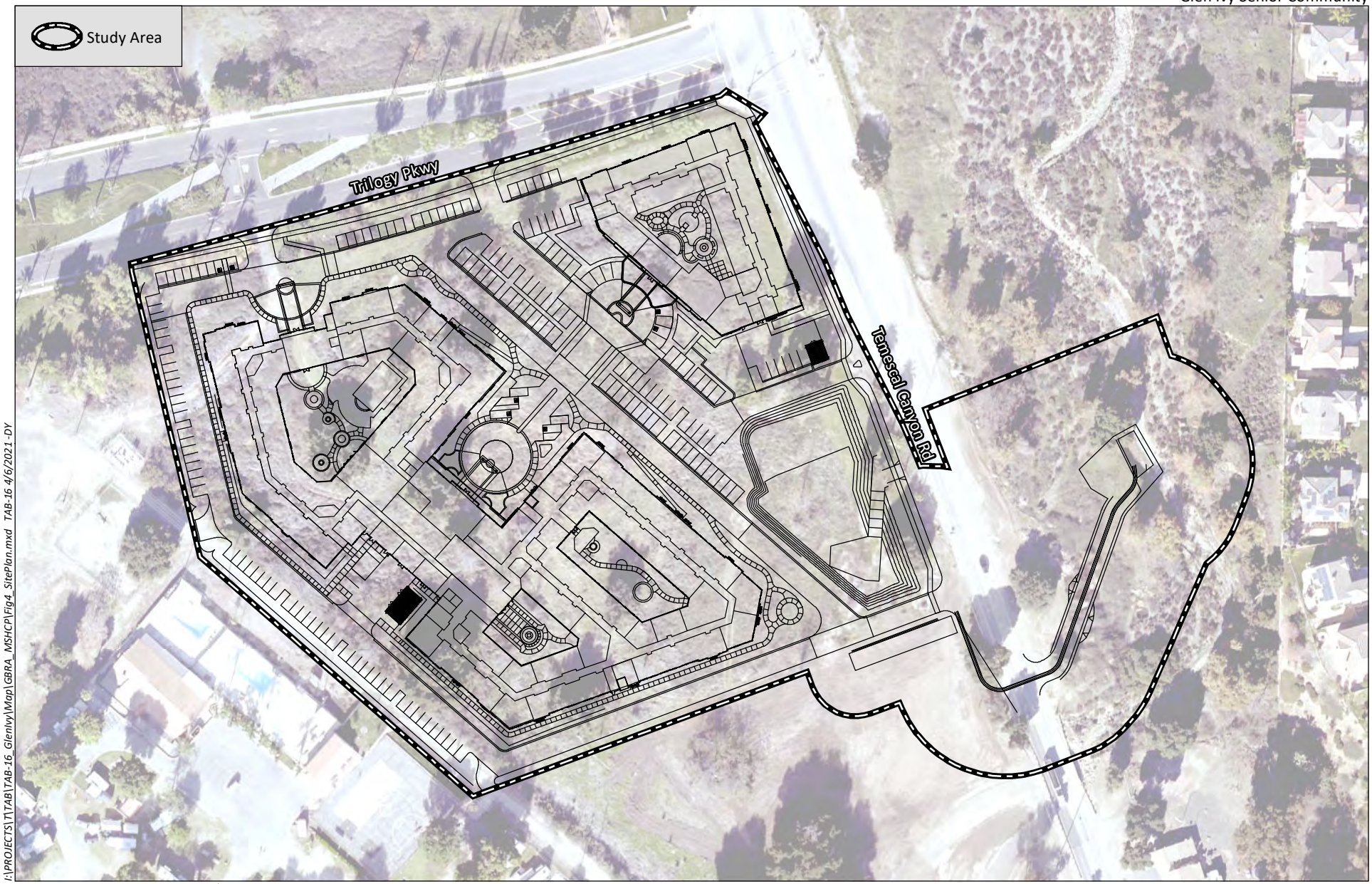
0 150 Feet

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# Aerial Photograph

Figure 3




I:\PROJECTS\TTAB\TAB-16_GlenIvy\Map\GBRA_MSHCP\Fig4_SitePlan.mxd TAB-16 4/6/2021 -DY

0 150 Feet

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# Site Plan

Figure 4

# 2.0 VEGETATION MAPPING

## 2.1 METHODS

HELIX biologist Rob Hogenauer mapped the vegetation types and land uses that occur in the study area on January 28, 2020. The vegetation and land use mapping were updated during the additional surveys conducted during the spring of 2020. Mapping was conducted using an aerial photograph of the study area (1" to 150 foot scale). Vegetation community classifications follow Holland (1986) and the MSHCP (Dudek 2003).

## 2.2 RESULTS

The mapping shows that the study area is dominated by non-native vegetation types. Habitats in the study area include 0.51 acre alluvial fan sage scrub (AFSS), 0.11 acre AFSS-disturbed, 0.15 acre non-native woodland/AFSS, 0.55 acre streambed/AFSA, 1.2 acres of coast live oak woodland, 0.02 acre southern willow scrub, 0.09 acre of disturbed (upland) mule fat scrub, 5.5 acres of non-native vegetation/non-native grassland mosaic, 0.9 acre of non-native woodland, 1.4 acres of non-native grassland, 2.6 acres disturbed habitat, and 0.6 acre developed land (Table 1, *Existing Vegetation Communities and Land Uses in the Glen Ivy Senior Community Study* Area; Figure 5, *Vegetation*). The study area also includes approximately 0.02 acre of streambed on-site that is not shown in the table below as the acreage of the streambed is included in other habitats listed in the table.

**Table 1**
**EXISTING VEGETATION COMMUNITIES AND LAND USES IN THE GLEN IVY SENIOR COMMUNITY STUDY AREA[1]**

| Habitat/Land Use | MSHCP Equivalent Community | Acres |
|---|---|---|
| Alluvial fan sage scrub | Riversidean alluvial fan sage scrub | 0.51 |
| Alluvial fan sage scrub-disturbed | Disturbed alluvial | 0.11 |
| Non-native woodland/Alluvial fan sage scrub | Disturbed alluvial | 0.15 |
| Streambed/Alluvial fan sage scrub | Open water/alluvial fan sage scrub | 0.55 |
| Coast live oak woodland | Coast live oak woodland | 1.2 |
| Southern willow scrub | Southern willow scrub | 0.02 |
| Upland Mule fat scrub – disturbed | Mulefat scrub (disturbed) | 0.09 |
| Non-native vegetation/non-native grassland mosaic | Exotic | 5.5 |
| Non-native grassland | Exotic | 1.4 |
| Non-native woodland | Exotic | 0.9 |
| Disturbed habitat | Disturbed/exotic | 2.6 |
| Developed land | Developed/Urban | 0.6 |
| | **Total** | **13.63** |

[1] Acres are rounded to nearest 0.01 acre for sensitive habitats and areas less than 0.2 acre, and 0.1 acre for other habitats.

### 2.2.1 Alluvial Fan Sage Scrub (Including disturbed)

Alluvial fan sage scrub is a community that occurs on outwash fans and riverine deposits along the coastal side of major mountains in southern California. It occurs on sandy, rocky alluvium that is deposited by streams that periodically flood. This periodic flooding results in the removal of the vegetation on the adjacent terraces. During less severe flooding, the vegetation on the more protected terraces is not removed. This pattern of flooding results in a mosaic of plant communities, from pioneer communities that occur in the washes and are subjected to frequent flooding and scouring to intermediate and mature communities that are exposed to relatively less frequent flooding. Persistence of pioneer and intermediate seral communities is dependent upon this periodic flooding. If periodic flooding is prevented by stream channelization or damming, these early seral communities will develop into Riversidean coastal sage scrub or chaparral communities.

The floristic composition of alluvial fan sage scrub (AFSS) is unique in that it is an assemblage of species that do not commonly coexist in other plant communities. Scalebroom (*Lepidospartum squamatum*) is a shrub that is restricted to alluvial scrub communities and occurs in the flood-abraded channels. White sage (*Salvia apiana*) is a co-dominant shrub that occurs in the more intermediate seral communities. Another co-dominant, California buckwheat (*Eriogonum fasciculatum*), occurs throughout all the seral communities. Holly-leaved cherry (*Prunus ilicifolia*), western sycamore (*Platanus racemosa*), mountain mahogany (*Cercocarpus betuloides*), felt leaf yerba santa (*Eriodictyon crassifolium*), and chamise (*Adenostoma fasciculatum*) are all species that occur on the more protected terraces and normally do not coexist in other habitats.

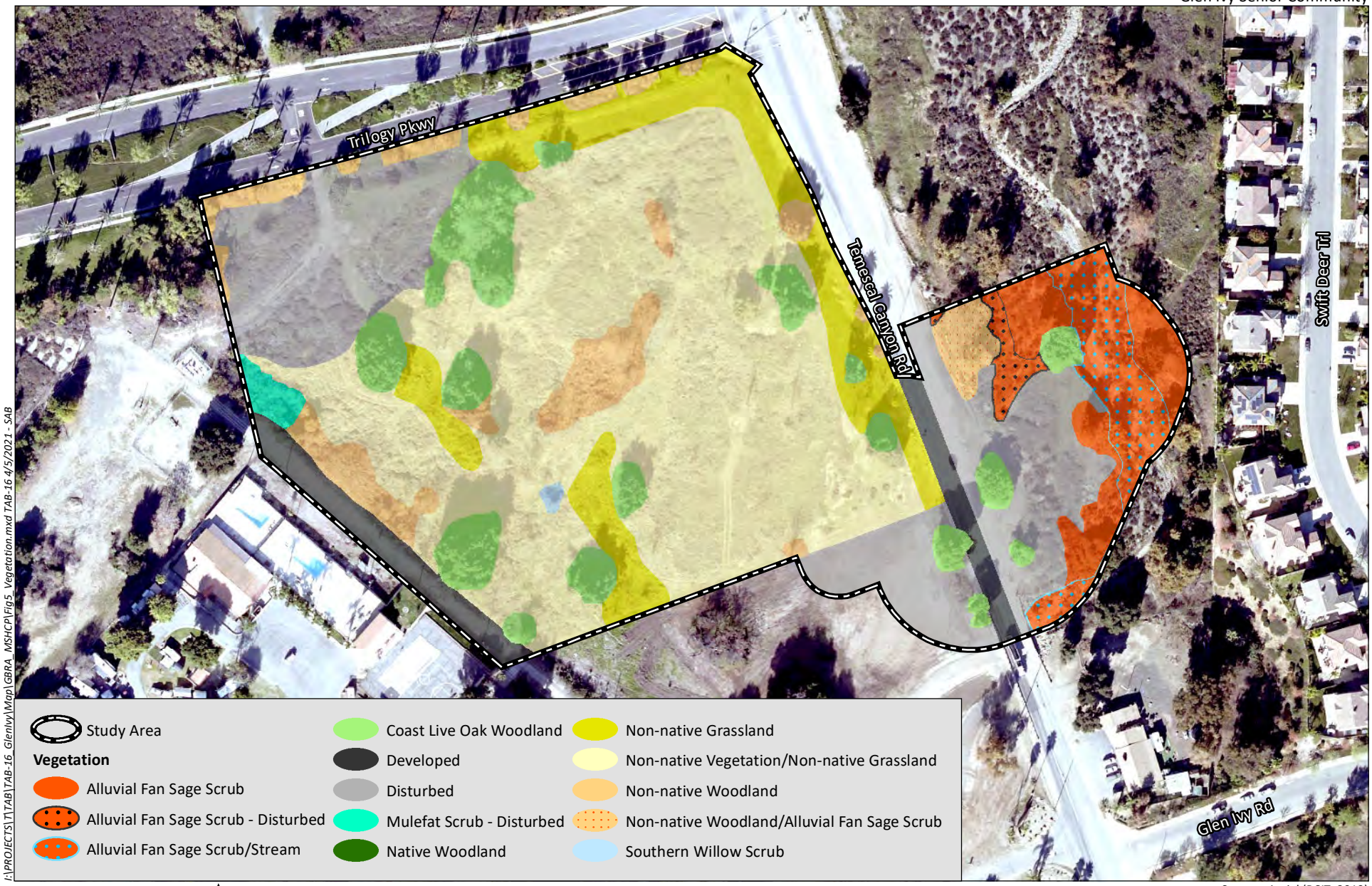
This community occurs within and adjacent to the Coldwater Creek in the portion of the study area east of Temescal Canyon Road and is considered riparian based on its landscape position. The AFSS in the study area primarily consists of California buckwheat and scalebroom, along with smaller numbers of other species commonly observed in this habitat. The disturbed portions of the AFSS include a significant amount of short-podded mustard (*Hirschfeldia incana*) along will some tree tobacco (*Nicotiana glauca*), stinknet (*Oncosiphon piliferum*), and non-native grasses. There is 0.62 acre of this habitat present in the study area east of Temescal Canyon Road. The AFSS in the study area has been negatively affected by edge effects, unauthorized dumping, and invasive plant species.

### 2.2.2 Non-native Woodland/Alluvial Fan Sage Scrub

This habitat has components of both non-native woodland and AFSS. The upper canopy visible on an aerial photograph is comprised of tree of heaven (*Ailanthus altissima*). The understory is similar in composition to disturbed AFSS habitat dominated by scalebroom, California buckwheat and short-podded mustard. There is 0.15 acre of this habitat present in the study area east of Temescal Canyon Road.

### 2.2.3 Alluvial Fan Sage Scrub/Streambed

This habitat is comprised of a braided stream channel with sparse vegetation. The vegetation that is present occurs on small islands within the stream and along the flood plain along the banks. Vegetation is sparse and includes scalebroom, California buckwheat, western sycamore, and various annuals. There is 0.55 acre of this habitat located in Coldwater Creek that occurs only in the study area.




I:\PROJECTS\TAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig5_Vegetation.mxd TAB-16 4/5/2021 - SAB

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# Vegetation

Figure 5

### 2.2.4 Coast Live Oak Woodland

Coast live oak woodland is an open-to-dense evergreen woodland or forest community dominated by coast live oak (*Quercus agrifolia*) trees, which may reach heights between 35 and 80 feet. Components of the shrub layer (if present) generally include toyon (*Heteromeles arbutifolia*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*). This community occurs on coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines.

In the study area the coast live oak woodland consists of multiple stands of one to several coast live oaks with a primarily herbaceous understory. The coast live oak woodland on the east side of Temescal Canyon Road includes a few sapling blue elderberry and western sycamore (*Platanus racemosa*). The coast live oak woodland adjacent to Coldwater Creek (Drainage 3) is considered riparian. There is 1.2 acres of coast live oak woodland in the study area.

### 2.2.5 Southern Willow Scrub

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat and with scattered emergent Fremont cottonwood and western sycamores. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.

In the study area the southern willow scrub is comprised of a single black willow (*Salix gooddingii*). This single willow tree is struggling, showing the effect of the drought that occurred over the previous few years. There is 0.02 acre of southern willow scrub on the study area.

### 2.2.6 Mule Fat Scrub - Disturbed

Mule fat scrub is a depauperate, shrubby riparian scrub community dominated by mule fat and interspersed with shrubby willows. This habitat often occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. Similar to southern willow scrub, this early seral community is maintained by frequent flooding, the absence of which would lead to a riparian woodland or forest (Holland 1986).

The mule fat scrub in the study area is disturbed and is a mix of mule fat (*Baccharis salicifolia*) and tree tobacco (*Nicotiana glauca*). This habitat occurs along the road that borders the western side of the study area and is adjacent to an off-site Elsinore Valley Municipal Water District facility called Trilogy Well and associated pumps and pipes that is enclosed in a fence. Within the study area there is 0.09 acre of this habitat, all of which is in an upland position.

### 2.2.7 Non-native Vegetation/Non-native Grassland Mosaic (Exotic)

The non-native vegetation/non-native grassland mosaic is an exotic habitat that doesn't fit into a specific Holland vegetation type. This habitat is similar to non-native grassland (see Section 5.2.5) but is dominated by non-native grass species. The non-native grasses comprise a minor component of the

habitat. Within the study area there is 5.5 acres of this habitat. The non-native vegetation/non-native grassland habitat is dominated by short -podded mustard and also includes filaree (*Erodium* sp.), tocalote (*Centaurea melitensis*), dove weed (*Croton setiger*), and a few non-native grasses.

### 2.2.8 Non-native Grassland (Exotic)

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. Characteristic species include oats (*Avena* spp.), brome grasses (*Bromus* spp.), and mustards (*Brassica* spp., *Hirschfeldia incana*). Most of the annual introduced species within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. Intensive grazing and agricultural practices combined with severe droughts in California contributed to the successful invasion and establishment of these species and the replacement of native grasslands with annual-dominated non-native grasslands.

In the study area non-native grassland occurs in several patches. This habitat is dominated by a mix of grasses including red brome (*Bromus madritensis*) and wild oat (*Avena* sp.) along with short-podded mustard, tocalote, and rancher's fiddleneck (*Amsinckia menziesii*). There is a total of 1.4 acres of non-native grassland in the study area.

### 2.2.9 Non-native Woodland (Exotic)

Non-native woodland is tree dominated habitat comprised of exotic/non-native species. This habitat often occurs as an ornamental planting for purpose of shade, use as a windrow, or other purposes. On the study area this habitat occurs in two patches with one patch dominated by tree of heaven and the other dominated by a mix of castor bean (*Ricinus communis*) and tree tobacco. Other species occurring in the non-native woodland include Peruvian pepper (*Schinus molle*), salt cedar (T*amarix* sp.), Mexican fan palm (*Washingtonia robusta*), and the native blue elderberry. There is 0.9 acre of non-native woodland in the study area.

### 2.2.10 Disturbed Habitat

Disturbed land includes land cleared of vegetation (e.g., dirt roads), land dominated by non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat. Within the study area the disturbed land occurs in the northwest corner and is comprised of land that has been impacted by multiple vehicles and used for dumping of cut vegetation and other materials. This habitat is sparsely vegetated but is dominated by short-podded mustard where vegetation occurs. There are 2.6 acres of disturbed habitat in the study area.

### 2.2.11 Developed Land

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Within the study area the developed land is comprised of an access road along the western border. There is 0.6 acre of developed land in the study area.

## 2.3 IMPACTS

The project proposes impacts to all of the habitat within APNs 290-190-083 and 290-190-084 located west of Temescal Canyon Road. Additional impacts are primarily related to the installation of the pipeline and outfall structure from the water quality basin along with the associated access road (Figure 6, *Vegetation Impacts*). The project proposes total impacts of 11.079 acres. These impacts are comprised of 10.766 acres of permanent impacts and 0.313 acre of temporary impacts. Permanent impacts are comprised of 1.03 acres coast live oak woodland, 0.02 acre southern willow scrub, 0.02 acre AFSS/streambed, 0.006 acre AFSS, 0.09 acre upland mule fat scrub, 5.5 acres non-native vegetation/non-native grassland mosaic, 1.4 acres non-native grassland, 0.9 acre non-native woodland, 1.4 acres disturbed habitat, and 0.4 acre developed land. Proposed temporary impacts include 0.06 acre coast live oak woodland, 0.01 acre AFSS, 0.003 acre AFSS-disturbed, 0.04 AFSS/streambed, 0.18 acre disturbed habitat, and 0.02 acre developed habitat (Table 2, *Vegetation Communities and Land Use Impacts for the Glen Ivy Senior Community Project*; Figure 6).

**Table 2**
**VEGETATION COMMUNITIES AND LAND USE IMPACTS FOR THE GLEN IVY SENIOR COMMUNITY PROJECT[1]**

| Habitat/Land Use | MSHCP Equivalent Community | Existing Acres | Impacts | |
|---|---|---|---|---|
| | | | Permanent | Temporary |
| Alluvial fan sage scrub | Riversidean alluvial fan sage scrub | 0.51 | 0.006 | 0.01 |
| Alluvial fan sage scrub-disturbed | Disturbed alluvial | 0.11 | - | 0.003 |
| Non-native woodland/Alluvial fan sage scrub | Disturbed alluvial | 0.15 | | - |
| Streambed/Alluvial fan sage scrub | Open water/alluvial fan sage scrub | 0.55 | 0.02 | 0.04 |
| Coast live oak woodland | Coast live oak woodland | 1.2 | 1.03 | 0.06 |
| Southern willow scrub | Southern willow scrub | 0.02 | 0.02 | - |
| Mule fat scrub – disturbed | Mulefat scrub (disturbed) | 0.09 | 0.09 | - |
| Non-native vegetation/non-native grassland mosaic | Exotic | 5.5 | 5.5 | - |
| Non-native grassland | Exotic | 1.4 | 1.4 | - |
| Non-native woodland | Exotic | 0.9 | 0.9 | - |
| Disturbed habitat | Disturbed/exotic | 2.6 | 1.4 | 0.18 |
| Developed land | Developed/Urban | 0.6 | 0.4 | 0.02 |
| | **Total[2]** | **13.63** | **10.766** | **0.313** |

[1] Acres are rounded to nearest: 0.001 for habitats less than 0.1 acre, 0.01 acre for sensitive habitats and habits under 0.2 acre, and 0.1 acre for other habitats.

# 3.0 JURISDICTIONAL DELINEATION

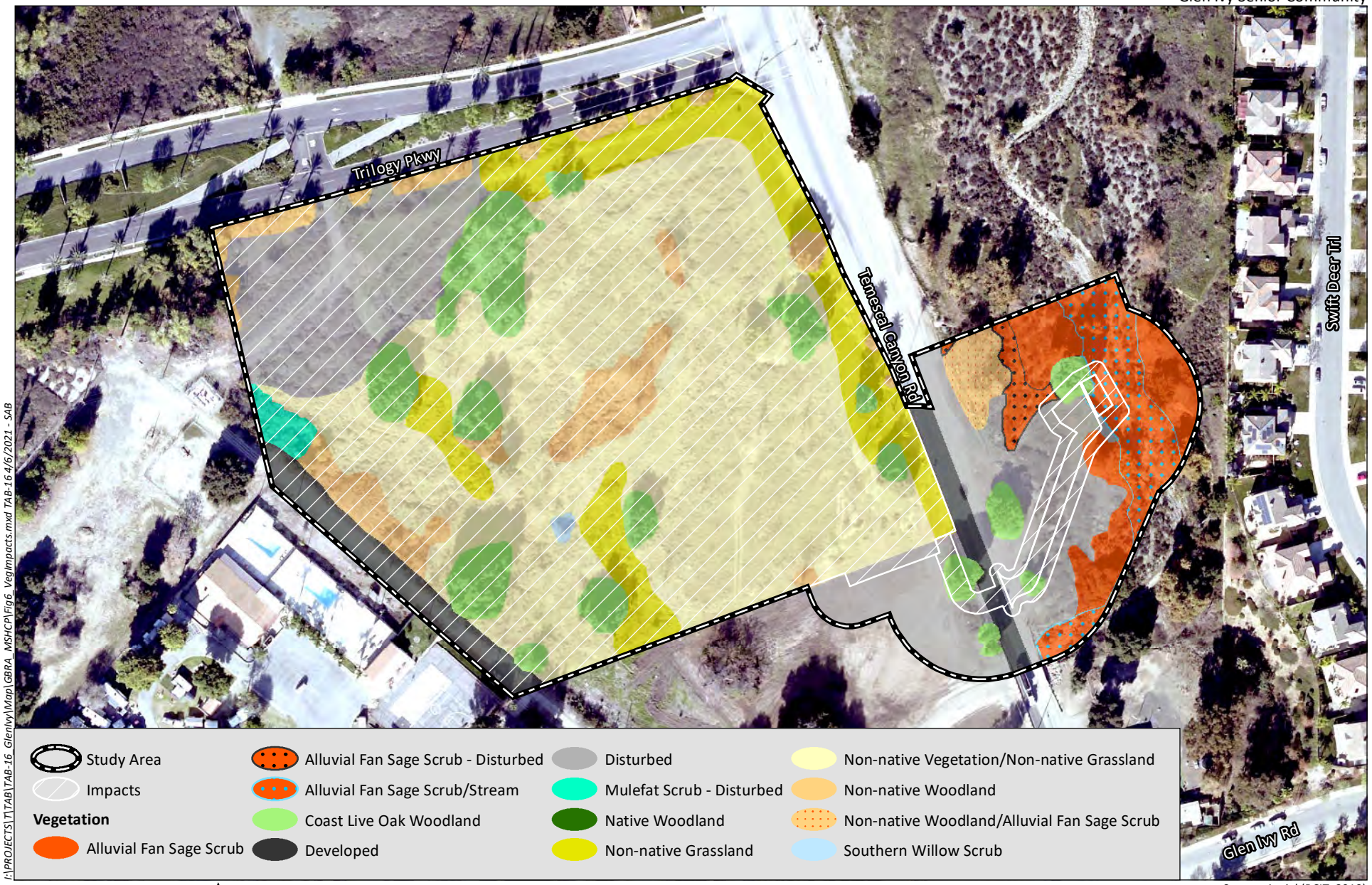
## 3.1 METHODS

Prior to beginning field work, aerial photographs (1 inch = 150 feet), USGS quadrangle maps, and National Wetland Inventory (NWI) maps (USFWS 2020) were reviewed to assist in determining the location of potential jurisdictional waters in the study area. HELIX biologist Rob Hogenauer conducted a jurisdictional delineation of waters in the on-site study area on March 24, 2020 and on April 13, 2020, in the portion of the study area east of Temescal Canyon Road. Additional information was collected by Mr. Hogenauer for the off-site study area on October 29, 2020. The effort was conducted to identify jurisdictional waters potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA, and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game (CFG) Code. Data collection was targeted in areas that were deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark, the presence of a bed/bank and streambed associated vegetation, and/or other surface indications of streambed hydrology. Potential jurisdictional features were mapped at a scale of one-hundredth of an acre (0.01 acre). The delineation conducted in the area east of Temescal Canyon Road was conducted to aid the project design in avoiding impacts to waters to the greatest extent feasible.

The criteria used in the Jurisdictional Delineation (JD) performed by HELIX was based on the U.S. Environmental Protection Agency (EPA) definition of waters of the U.S. in effect at the time the JD was performed (Old Rule). However, there has been a new Ruling by EPA known as the "Navigable Waters Protection Rule: Definition of "Waters of the United States" (EPA 2020)" to define the Waters of the U.S. The New Rule was published in the Federal Register on April 21, 2020 (National Archives 2020). The rule takes effect 60 days after publication in the Federal Register, which was June 22, 2020. An excerpt defining waters excluded by the new rule is provided below:

> *The final rule excludes from the definition of "waters of the United States" all waters or features not mentioned above. In addition to this general exclusion, the final rule specifically clarifies that waters of the United States do not include the following:*

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




I:\PROJECTS\TTAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig6_VegImpacts.mxd TAB-16 4/6/2021 - SAB

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# Vegetation Impacts

Figure 6

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

There are certain listed exceptions included in the New Rule that may result in the elimination of Drainage 1 and Drainage 2 as waters of the U.S. Drainage 3 (Coldwater Creek) in the portion of the study area east of Temescal Canyon Road is an intermittent streambed and is thus considered a water of the U.S. A CWA Section 404 permit would be required for proposed impacts to Coldwater Creek.

It should be noted that on August 30, 2021, a US District judge ruled to overturn the New Rule. Appeals to the ruling are expected and the final outcome is uncertain at this time. Additional information is anticipated to be available in the future and will be addressed during the permitting phase for the project.

## 3.2 EXISTING CONDITIONS AND RESULTS

The National Wetland Inventory (NWI) did not show wetlands as occurring within the onsite portion of the study area. The project study area is crossed by Coldwater Creek and associated AFSS. This reach of Coldwater Creek had potential to overflow its banks during large storm events and sheet flow into the study area. Recently, the Riverside Flood Control District installed a flood control facility on the adjacent parcel thus removing the potential for Coldwater Creek to overflow into the study area.

### 3.2.1 Potential CDFW Jurisdiction

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow, if present. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and AFSS). Jurisdictional limits for CDFW streambeds were defined by the top of bank. Vegetated CDFW habitats were mapped at the limits of streambed-associated vegetation, if present.

Based on the results of the aquatic resource assessment, three drainages occur within the study area. Habitat associated with Drainage 3 consists of Coldwater Creek and associated AFSS. The Riverside Flood Control facility located south of the project site has reduced or eliminated the flood potential required for the AFSS to persist on the east side of Temescal Canyon Road.

Potential CDFW jurisdiction in the study area totals 1.43 acre consisting of approximately 0.02 acre southern willow scrub, 0.51 acre AFSS, 0.11 acre AFSS-disturbed, 0.15 acre non-native woodland/AFSS,

0.04 acre coast live oak woodland, 0.55 acre intermittent streambed, and 0.05 acre of ephemeral streambed (Table 3, *CDFW Jurisdictional Areas,* Figure 7, *MSHCP Riparian/Riverine and CDFW Jurisdictional Resources*). The ephemeral drainage (Drainage 1) originates as run off from the paved surface of the adjacent RV park to the west then flows into the study area and dissipates on the site as sheet flow.

The study area has two features that resemble ephemeral streams (Drainage 1 and an erosional feature) that originate as run off from the parking lot and road from the adjacent development to the west. Both Drainage 1 and the erosional feature more closely resemble erosional features than natural streams. A review of historical aerial photographs shows the streams did not exist prior to the creation of the impermeable surfaces created by the adjacent development to the west. The features are not the result of a redirection of a previous existing natural stream.

Drainage 1 is the result of runoff from the adjacent development that is directed into a small concrete v-ditch and released on to the subject property. The runoff creates a 0.02 acre ephemeral stream that dissipates on-site after 172 linear feet. Drainage 1 does not connect to downstream resources. The feature includes a large coast live oak. This oak tree is visible on historical aerial prior to adjacent development that created the drainage and is not considered to be dependent on the drainage and not jurisdictional. Drainage 1 has limited functions and values based on the hydrology resulting from the adjacent development's impermeable surfaces, small size, and lack of connection to downstream resources.

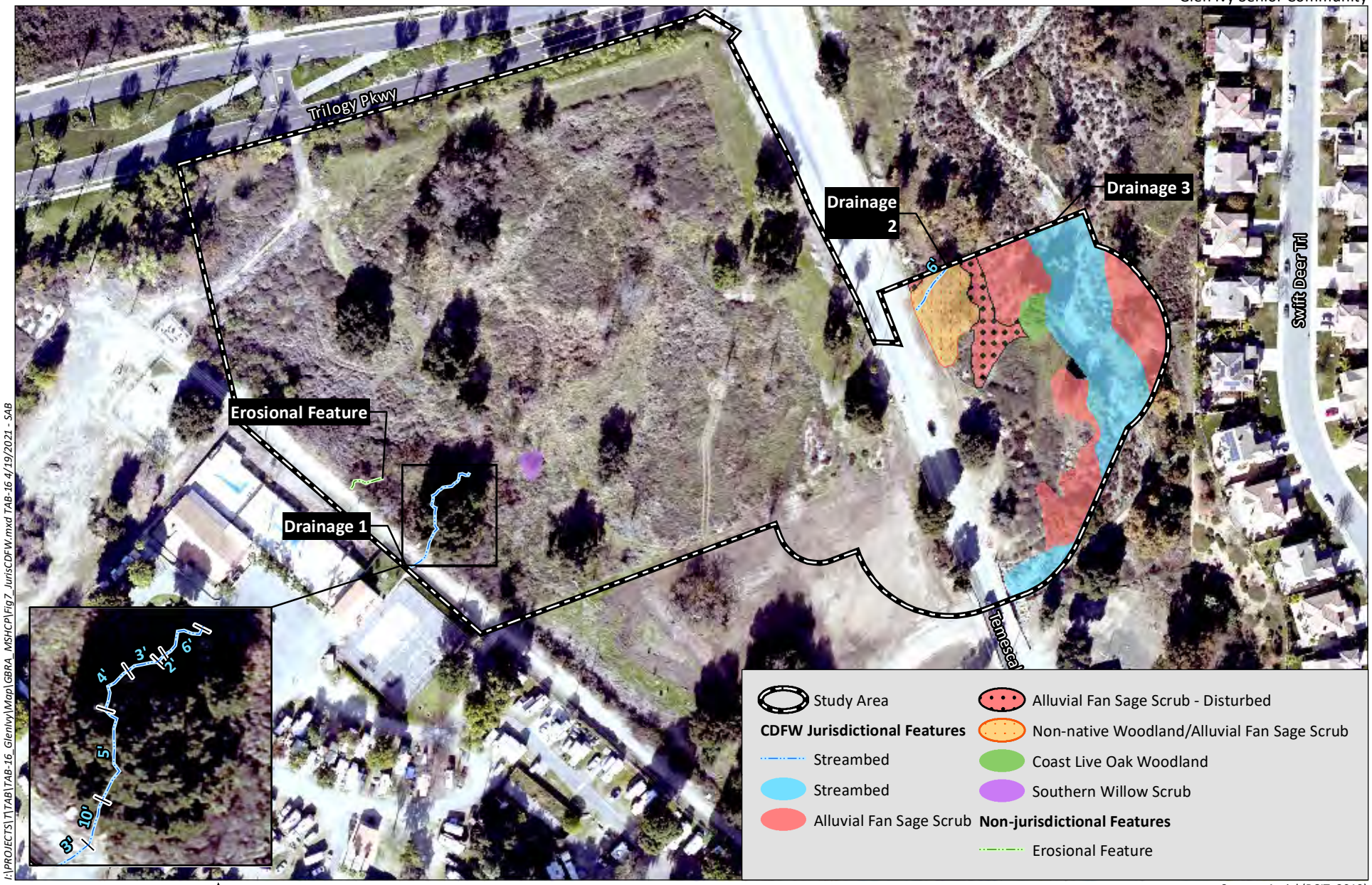
The erosional feature is formed by runoff from the road that forms the western property border. The road runoff flows on-site for 49 feet prior to dissipating. This 0.01 acre erosional feature occurs within non-native woodland vegetation that includes tree of heaven, castor bean, blue elderberry, and tree tobacco. These plant species comprise a patch of non-native woodland that occurs both adjacent to and separated from the erosional feature and is not dependent on the erosional feature. HELIX determined this erosional feature to not be jurisdictional.

The southern willow scrub is comprised of a single Gooding's black willow. This tree is not associated with a drainage, streambed, sheetflow, or other jurisdictional habitats. The single willow is deteriorating in health with only a few remaining branches producing leaves.

**Table 3**
**CDFW JURISDICTIONAL RESOURCES**

| Habitat Type | Acres |
|---|---|
| Drainage/Ephemeral streambed | 0.05 |
| Intermittent Streambed-Alluvial fan sage scrub | 0.55 |
| Southern willow scrub | 0.02 |
| Alluvial fan sage scrub | 0.51 |
| Alluvial fan sage scrub-disturbed | 0.11 |
| Non-native woodland/Alluvial fan sage scrub | 0.15 |
| Coast live oak woodland | 0.04 |
| **Totals** | **1.43** |

*These habitats occur parallel to the Streambed-Alluvial fan sage scrub and or the drainage/ephemeral streambed and separate linear feet were not measured.




I:\PROJECTS\TTAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig7_JurisCDFW.mxd TAB-16 4/19/2021 - SAB

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# CDFW/MSHCP Jurisdictional Resources

Figure 7

The study area includes AFSS in several habitat configurations including AFSS, AFSS-disturbed, non-native woodland- AFSS, and streambed with AFSS. The large streambed at the outfall structure is Coldwater Creek (Drainage 3) and includes patches of AFSS habitat. The AFSS habitat that occurs in the flood plain is associated with Coldwater Creek. There is also coast live oak woodland along Drainage 3 that is considered jurisdictional. A small drainage (Drainage 2) originates as road run off and travels through the non-native woodland- AFSS habitat and into the AFSS habitat and ultimately connects to Coldwater Creek outside the study area.

Riverside Flood Control District installed a flood control facility to the south and upstream of the AFSS habitat in the project study area. This flood control facility will result in a reduction of the regular bank overflow of Coldwater Creek at the project location and is believed to be for the purpose of protecting Temescal Canyon Road. The reduction of the bank overflow will reduce the frequency of the periodic flooding that the AFSS habitat adjacent to Coldwater Creek within the study area is dependent upon. The reduction of the periodic flooding would potentially result in the reduction of the quality of the AFSS habitat in the study area.

### 3.2.2 Potential USACE Jurisdiction

There is a total of approximately 0.28 acres of non-wetland waters of the U.S. within the study area, occurring entirely within the limits of Coldwater Creek (Drainage 3). The NWI does not show resources occurring on-site. Drainage 3 does include habitats in the NWI. The habitats are Palustrine Shrub-Shrub Temporary Flooded (PSSA) and Riverine Intermittent Streambed Seasonally Flooded (R4SBC). The PSSA habitat is comprised of AFSS, ephemeral stream (Drainage 2), and the vegetated portions of Coldwater Creek. The R4SBC habitat is Coldwater Creek.

Based on the results of the jurisdictional assessment the study area includes two ephemeral drainages (Drainages 1 and 2). The USACE has instituted new regulations that would make ephemeral drainages in general non jurisdictional to the USACE. This new rule is referred to as 33 CFR Section 328(b)(3). Both these drainages are ephemeral and as such are not jurisdictional to the USACE per 33 CFR Section 328(b)(3). Drainage 1 originates from the RV park to the west and dissipates on-site. Drainage 1 has no connection to downstream resources. The drainage does not have a connection to a Traditional Navigable Water (TNW) or Relative Permanent Water (RPW). The drainage was determined by HELIX to not be jurisdictional to the USACE. Drainage 2 originates as road runoff from Temescal Canyon Road and connects to Coldwater Creek.

The portion of the study area east of Temescal Canyon Road includes Coldwater Creek and an ephemeral streambed, in addition to adjacent habitats associated with the creek. Coldwater Creek is a braided stream system with a fairly well defined ordinary high water mark (OHWM) along the edges of the system. The portion of Coldwater Creek within the study area includes 0.28 acre and 276 linear feet of intermittent non-wetland waters of the U.S. (Table 4, *USACE Jurisdictional* Waters; Figure 8, *USACE Jurisdictional Waters*). Drainage 2 is comprised of approximately 0.01 acre and 204 linear feet of ephemeral drainage that is not jurisdictional to USACE per the new rule. The adjacent habitats are above the OHWM and are not USACE wetland habitats therefore are not USACE jurisdictional.

**Table 4**
**USACE JURISDICTIONAL WATERS**

| Habitat Type | Acres | Linear feet |
|---|---|---|
| **Non-wetland waters of the U.S.** | | |
| Intermittent/perennial stream | 0.28 | 276 |
| **Totals** | **0.28** | **276** |

### 3.2.3 Potential RWQCB Jurisdiction

Based on the results of the HELIX jurisdictional assessment, the study area includes a total of 0.64 acre of aquatic resources jurisdictional to RWQCB. The RWQCB legislates impacts to CWA Section 404 waters under CWA Section 401. When waters are present but are not subject to Section 404, the waters are then regulated by the RWQCB as Waters of the State under the Porter Cologne Act (PCA). The limit of RWQCB jurisdiction was based on the top of bank where water flows. RWQCB jurisdictional limits are similar to the CDFW limits except where the CDFW limits included riparian vegetation outside the bed and bank of a drainage. Impacts to RWQCB waters will require a CWA Section 401 Water Quality Certification. If impacts to USACE CWA Section 404 waters do not occur, then a report of waste discharge (ROWD) will be required in lieu of a water quality certification.

The study area includes a small ephemeral drainage (Drainage 1) on-site in the southwest portion of the site, along with an erosional feature, with additional waters west of Temescal Canyon Road (Figure 9, *RWQCB Jurisdictional Waters*). Drainage 1 is the result of runoff from the adjacent development that is directed into a small concrete v-ditch and released on to the subject property. The runoff creates a 0.02 acre ephemeral stream that dissipates on-site after 172 linear feet and does not connect to downstream resources. In addition, there is an erosional feature resulting from road runoff that was determined by HELIX to not be jurisdictional. This erosional feature is approximately 0.01 acre and 49 linear feet. The erosional feature does not connect to downstream resources or Drainage 1.

West of Temescal Canyon Road the study area includes RWQCB jurisdictional habitat comprised of 0.03 acre streambed (Drainage 2), 0.04 acre coast live oak, and 0.55 acre streambed with AFSS (Drainage 3, Coldwater Creek). The coast live oak occurs on the bank of Coldwater Creek.

**Table 5**
**RWQCB JURISDICTIONAL RESOURCES**

| Habitat Type | Acres | Linear feet |
|---|---|---|
| Drainage 1/Ephemeral Streambed | 0.02 | 172 |
| Drainage 2/ephemeral streambed | 0.03 | 72 |
| Intermittent Streambed with AFSS | 0.55 | 276 |
| Coast live oak woodland | 0.04 | - |
| **Totals** | 0.64 | 520 |


Source: Aerial (RCIT, 2019)

I:\PROJECTS\TTAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig8_JurisUSACE.mxd TAB-16 4/19/2021 - SAB

HELIX Environmental Planning

# USACE Jurisdictional Waters

Figure 8


I:\PROJECTS\T\TAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig9_JurisRWQCB.mxd TAB-16 4/20/2021 - SAB

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# RWQCB Jurisdictional Waters

Figure 9

# 3.3 IMPACTS

Proposed impacts include the installation of the outfall structure at Coldwater Creek, including the associated maintenance access road along with a 10-foot buffer for temporary impacts to allow for minor adjustments during construction. The temporary impacts may or may not actually occur. However, in order to provide an analysis consisting of the full potential impacts it is assumed these impacts would occur.

## 3.3.1 Potential CDFW Impacts

The project proposes to impact Drainage 1, the southern willow scrub (single tree), and minor impacts to Coldwater Creek and associated AFSS (Table 6, *CDFW Jurisdictional Impacts*, Figure 10, *CDFW Impacts*). The proposed CDFW impacts total 0.155 acre consisting of 0.81 acre permanent impacts and 0.074 acre temporary impacts.

The permanent impacts include 0.02 acre ephemeral streambed, 0.02 acre southern willow scrub (single tree), 0.005 acre coast live oak woodland, 0.006 acre AFSS, and 0.03 acre intermittent drainage. The temporary impacts are comprised of 0.01 acre AFSS, 0.003 acre AFSS-disturbed, 0.05 acre streambed/AFSS, and 0.011 acre coast live oak woodland. The coast live oak woodland, AFSS, AFSS-disturbed, and intermittent streambed impacts are all related to the installation of the pipeline, outfall structure, and associated maintenance road for the water quality basin.

The project will require application for a Streambed Alteration Agreement (SAA) from the CDFW.

**Table 6**
**CDFW JURISDICTIONAL IMPACTS**

| Habitat Type | Permanent | | Temporary | | Total | |
|---|---|---|---|---|---|---|
| | Acres | Linear feet* | Acres | Linear feet* | Acres | Linear feet |
| Ephemeral streambed (Drainage 1) | 0.02 | 172 | - | - | 0.02 | 172 |
| Southern willow scrub | 0.02 | 12 | - | - | 0.02 | 12 |
| Coast live oak woodland | 0.005 | 16 | 0.011 | 29 | 0.016 | 29 |
| Alluvial fan sage scrub | 0.006 | 8 | 0.01 | 10 | 0.016 | 18 |
| Alluvial fan sage scrub-disturbed | | | 0.003 | 10 | 0.003 | 10 |
| Streambed/Alluvial fan sage scrub (Coldwater Creek, Drainage 3) * | 0.03 | 53 | 0.05 | 87 | 0.08 | 87 |
| **Totals*** | 0.081 | 261 | 0.074 | 136 | 0.155 | 328 |

* linear feet of temporary and permanent impacts to coast live oak woodland, alluvial fan sage scrub Coldwater creek overlap and are not cumulative. Total linear feet of impacts to Coldwater Creek is 87 feet.

## 3.3.2 Potential USACE Impacts

The project proposes impacts to 0.04 acre of non-wetland waters of the U.S. located along Coldwater Creek (Drainage 3). The impacts are comprised of 0.01 acre permanent impacts 0.03 acre temporary impacts acre to non-wetland intermittent streambed (Table 7, *USACE Jurisdictional Waters Impacts*; Figure 11, *USACE Impacts*). The intermittent streambed is sparsely vegetated with AFSS. The project is anticipated to utilize Nationwide Permit (NWP) 7 (Outfall structures and associated intake structures) or

18 (Minor discharges). NWP 18 allows discharges not to exceed 0.1 acre of waters of the U.S., fill of no more than 25 cubic yards, and that the discharge is not placed for the purpose of stream diversion. NWP 7 does not have impact limits but does require compliance with Nationwide Pollutant Discharge Elimination Discharge System (NPDES).

**Table 7**
**USACE JURISDICTIONAL WATERS IMPACTS**

| Habitat Type | Permanent | | Temporary | |
|---|---|---|---|---|
| | Acres | Linear feet | Acres | Linear feet |
| **Non-wetland waters of the U.S.** | | | | |
| Intermittent stream | 0.01 | 40 | 0.03 | 87 |
| **Totals** | **0.01** | **40** | **0.03** | **87** |

*impacts occur parallel so linear feet impacts are not cumulative. Total linear feet of impacts is 87 feet.

Drainage 1 is also being impacted but was determined by HELIX to not be jurisdictional to the USACE. This will require confirmation from the USACE.

### 3.3.3 Potential RWQCB Impacts

The project includes 0.116 acre of impacts to the RWQCB aquatic resources in the project study area (Table 8, *RWQCB Jurisdictional Impacts*). The project proposes 0.055 acre permanent impacts comprised of 0.02 acre impact to ephemeral streambed (Drainage 1), 0.03 acre intermittent streambed (Drainage 3, Coldwater Creek), and 0.005 acre coast live oak woodland associated with Drainage 3. The proposed RWQCB 0.061 acre temporary impacts are comprised of 0.05 acre intermittent streambed and 0.011 acre coast live oak woodland (Table 8; Figure 12, *RWQCB Impacts*). The project will require the issuance of a CWA Section 401 Water Quality Certification or ROWD from the RWQCB.

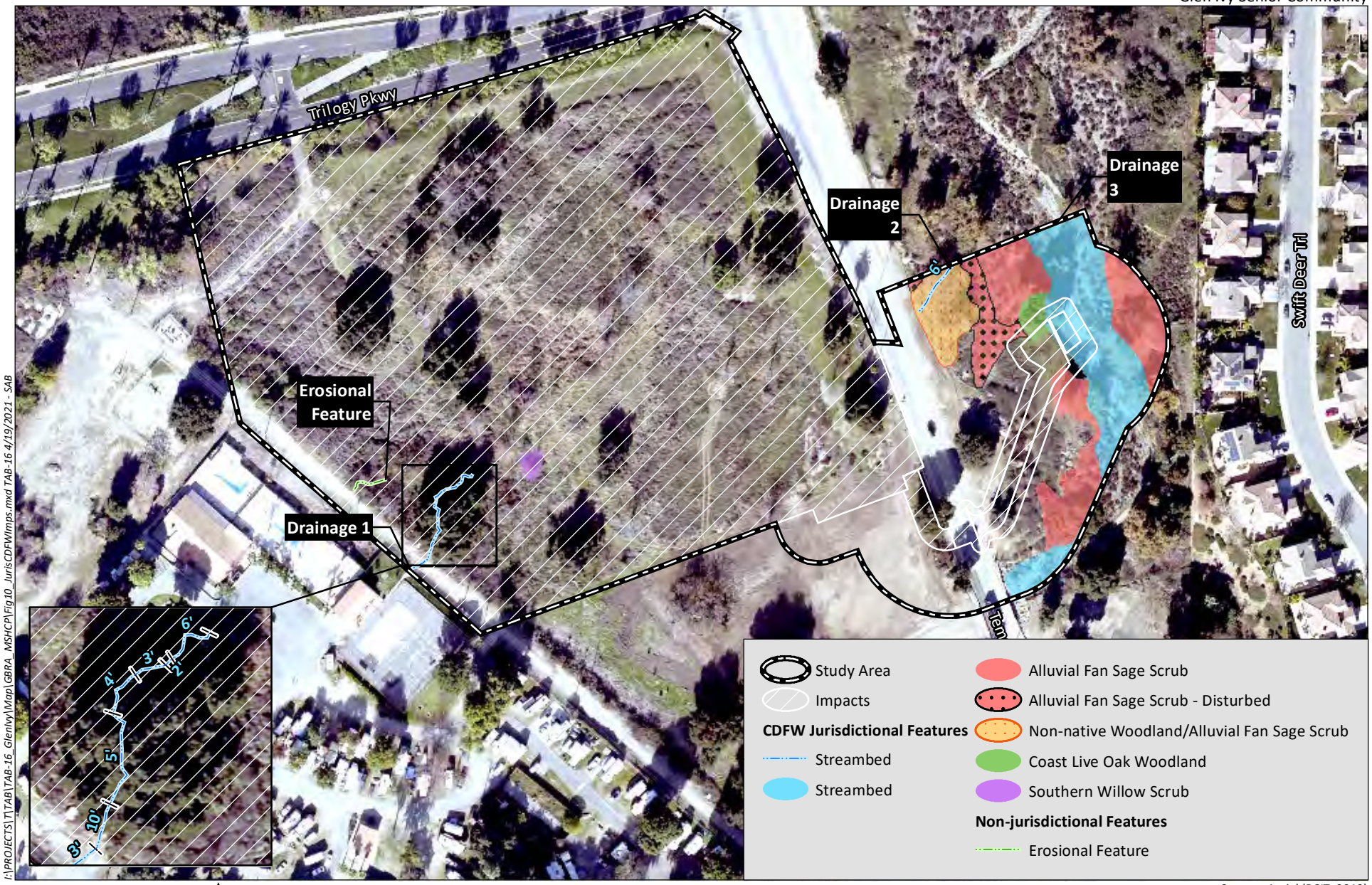
**Table 8**
**RWQCB JURISDICTIONAL IMPACTS**

| Habitat Type | Permanent | | Temporary | |
|---|---|---|---|---|
| | Acres | Linear feet | Acres | Linear feet |
| Isolated Ephemeral streambed (Drainage 1) | 0.02 | 172 | - | - |
| Streambed/Alluvial fan sage scrub (Coldwater Creek)* | 0.03 | 33 | 0.05 | 87 |
| Coast live oak woodland | 0.005 | 16 | 0.011 | 29 |
| **Totals** | **0.055** | **221** | **0.061** | **116** |

* linear feet of temporary and permanent impacts to Coldwater creek overlap and are not cumulative. Total linear feet of impacts to Coldwater Creek is 50 feet.

## 3.4 MITIGATION

The project will be required to mitigate for impacts to CDFW, RWQCB, and USACE resources. Due to the project's small size, on-site mitigation is not feasible. As a result, the project proposes to mitigate impact using a mitigation bank or in-lieu fee credits such as the Riverpark Mitigation Bank. The on-site waters (Drainage 1) are not connected to downstream resources, or upstream resources. The features originate




Source: Aerial (RCIT, 2019)

I:\PROJECTS\T\TAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig10_JurisCDFWImps.mxd TAB-16 4/19/2021 - SAB

HELIX Environmental Planning

# CDFW/MSHCP Jurisdictional Resources/Impacts

Figure 10

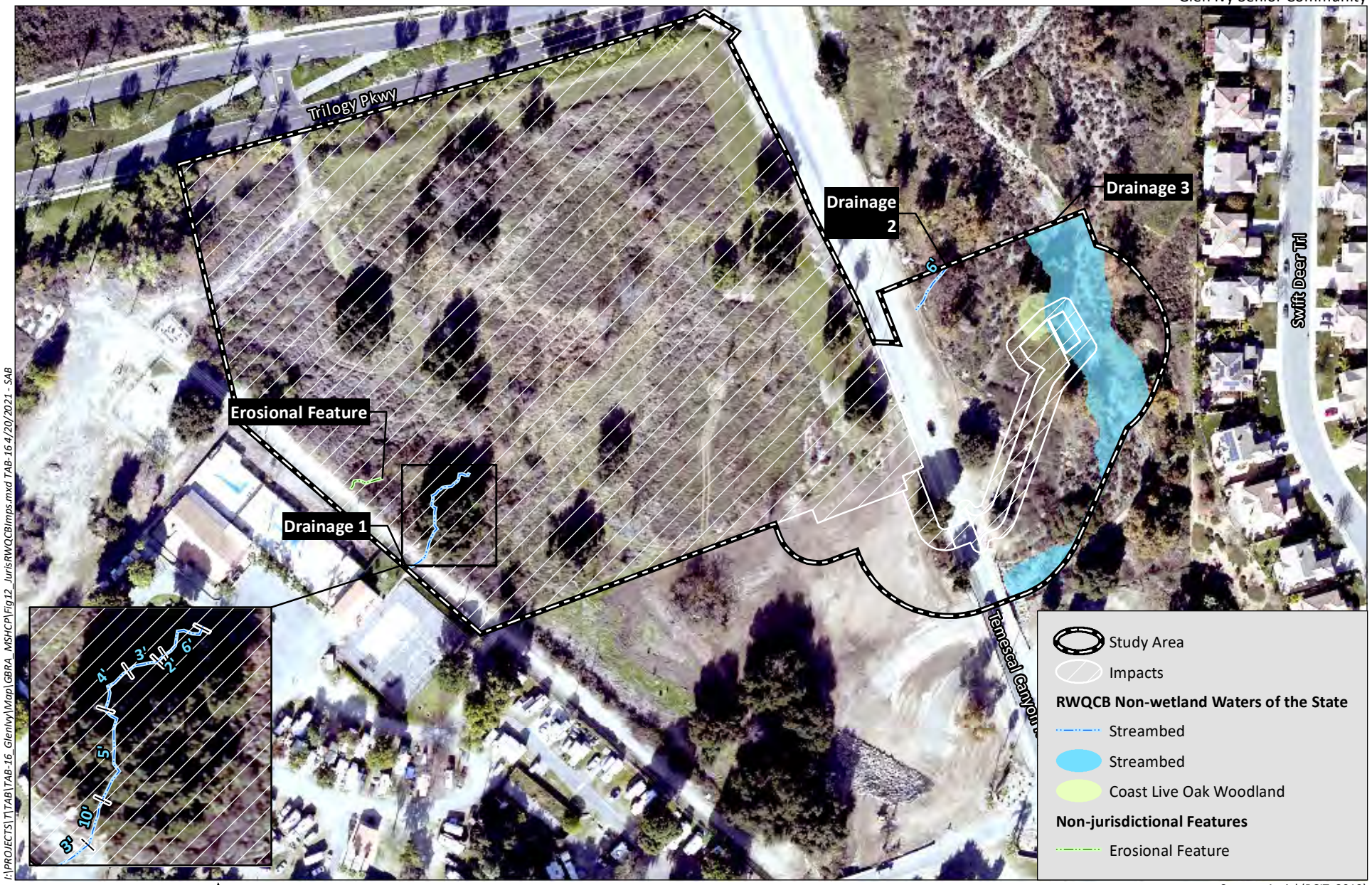

Source: Aerial (RCIT, 2019)

I:\PROJECTS\T\TAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig11_JurisUSACEImps.mxd TAB-16 4/16/2021 - SAB

HELIX Environmental Planning

# USACE Jurisdictional Waters/Impacts

Figure 11




I:\PROJECTS\T\TAB\TAB-16_Glenlvy\Map\GBRA_MSHCP\Fig12_JurisRWQCBimps.mxd TAB-16 4/20/2021 - SAB

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

# RWQCB Jurisdictional Waters/Impacts

Figure 12

from water collecting off the impermeable surfaces of the adjacent developed land and dissipate on-site. Mitigation proposed below is subject to change as a result of negotiation with the resource agencies during the permitting process.

CDFW permanent impacts to Coldwater Creek and AFSS are minimal and related to installation of a single outfall structure, including both temporary and permanent temporary impacts to AFSS/streambed, AFSS, and coast live oak woodland occurring from the pipe installation, maintenance access road, and related construction activities. Mitigation is proposed to occur as purchase of credits within the Riverpark Mitigation Bank. The mitigation bank in-lieu credits will be for resources with an equal or higher value than the resources then that being impacted. Impacts are proposed to be at a ratio of 1:1 for impacts to ephemeral streambed, 3:1 for southern willow scrub, and permanent impacts to Coldwater Creek and associated habitats, and 1:1 for temporary impacts. Additionally, temporary impacts will be restored to the pre-project contours and receive a one-time seeding with a native sage scrub seed mix comprised of species similar to those that already occur on site. The result is a total mitigation purchase of 0.28 (rounded from 0.277) acre (Table 9, *CDFW Mitigation*; Figure 10). The mitigation is proposed to consist of 0.08 acre re-establishment credits and 0.20 acre rehabilitation credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies.

Impacts to USACE waters are proposed to consist of permanent impacts to 0.01 acre and temporary impacts to 0.03 acre non-wetland waters of the U.S. (Table 10, *USACE Impacts*; Figure 11, *USACE Impacts*). Mitigation for permanent impacts are proposed via purchase of 0.01 acre re-establishment credits and 0.04 acre restoration credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies. Temporary impacts will be mitigated by restoring the impacts to the pre-project contours and a 1:1 purchase of restoration credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies.

Proposed impacts to RWQCB jurisdiction include 0.055 acre of permanent impacts and 0.061 acre temporary impacts (Table 11, *RWQCB Impacts*; Figure 12, *RWQCB Impacts*). The impacts are proposed to be mitigated at 1:1 for impacts to 0.02 acre ephemeral stream and temporary impacts to 0.05 acre streambed/ AFSS and 0.011 acre coast live oak woodland, and at 3:1 for permanent impacts to 0.03 acre streambed/alluvial fan scrub and 0.005 acre coast live oak woodland. The mitigation is proposed to consist of purchase of 0.06 acre re-establishment credits and 0.12 acre rehabilitation credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies.

**Table 9**
**CDFW MITIGATION**

| Habitat Type | Acres | Ratio | Mitigation |
|---|---|---|---|
| **Permanent** | | | |
| ephemeral stream | 0.02 | 1:1 | 0.02 |
| Southern willow scrub | 0.02 | 3:1 | 0.06 |
| Coast live oak woodland | 0.005 | 3:1 | 0.015 |
| Alluvial fan sage scrub | 0.006 | 3:1 | 0.018 |
| Streambed/alluvial fan sage scrub | 0.03 | 3:1 | 0.09 |
| **Temporary** | | | |
| Streambed/alluvial fan sage scrub | 0.05 | 1:1 | 0.05 |
| Alluvial fan sage scrub | 0.01 | 1:1 | 0.01 |
| Alluvial fan sage scrub-disturbed | 0.003 | 1:1 | 0.003 |

| | | | |
|---|---|---|---|
| Coast live oak woodland | 0.011 | 1:1 | 0.011 |
| **Totals** | **0.155** | | **0.277** |

**Table 10**
**USACE MITIGATION**

| Habitat Type | Acres | Ratio | Mitigation |
|---|---|---|---|
| **Non-wetland waters of the U.S.** | | | |
| Intermittent stream permanent impacts | 0.01 | 2:1 | 0.02 |
| Intermittent stream-temporary impact | 0.03 | 1:1 | 0.03 |
| **Totals** | **0.04** | | **0.05** |

**Table 11**
**RWQCB MITIGATION**

| Habitat Type | Acres | Ratio | Mitigation |
|---|---|---|---|
| **Permanent Impacts** | | | |
| Coast live oak woodland | 0.005 | 3:1 | 0.015 |
| Isolated ephemeral stream | 0.02 | 1:1 | 0.02 |
| Streambed/Alluvial fan sage scrub | 0.03 | 3:1 | 0.09 |
| **Temporary Impacts** | | | |
| Coast live oak woodland | 0.011 | 1:1 | 0.011 |
| Streambed/Alluvial fan sage scrub | 0.05 | 1:1 | 0.05 |
| **Totals** | **0.116** | | **0.186** |

The mitigation for impacts to CDFW, RWQCB, and USACE jurisdictional resources are not cumulative. The purchase of 0.08 acre re-establishment credits and 0.20 acre rehabilitation credits, along with recontour and reseeding of temporary impacts is proposed as the total mitigation.

# 4.0 REGULATORY CONTEXT

## 4.1 FEDERAL GOVERNMENT

Administered by the USFWS, the federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7, and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when

federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion, issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. The MSHCP is the Section 10(a) permit for this portion of Riverside County, including the subject property.

All migratory bird species that are native to the United States or its territories are protected under the Migratory Bird Treaty Act (MBTA), as amended under the MBTA of 2004 (FR Doc. 05-5127). This law is generally protective of migratory birds from the direct physical take of the species. Take for the MBTA uses the same definition as above and includes activity that result in the abandonment of a nest.

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. (including wetlands and vernal pools) is overseen by the USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. Individual Permits typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets appropriate conditions. A CWA Section 401 Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to any 404 Permit. This project is expected to qualify for a Nationwide Permit.

## 4.2 STATE OF CALIFORNIA

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The MSHCP is the regional section 2081 for this portion of the County, including the subject property. The golden eagle (*Aquila chrysaetos*) and white-tailed kite are considered State Fully Protected Species. Fully Protected species may not be taken or possessed at any time and no state licenses or permits may be issued for their take except for collecting these species necessary for scientific research and relocation of the bird species for the protection of livestock (Fish and Game Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed.

The California ESA followed the NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated threatened under the California ESA.

The California Fish and Game Code (Section 1600 et seq.) requires an agreement with CDFW for projects affecting riparian and wetland habitats through issuance of a Streambed Alteration Agreement. The proposed project impacts will require a 1602 Agreement from CDFW.

If a project has no impacts to USACE waters due to the new rule (discussed in Section 4.0 above), those water also no longer qualify for a CWA Section 401 water quality certification from the RWQCB. The RWQCB will then regulate them as waters of the State under the Porter Cologne Act and the project will require a ROWD for those impacts.

## 4.3 WESTERN RIVERSIDE MULTIPLE SPECIES HABITAT CONSERVATION PLAN

The MSHCP is a comprehensive multi-jurisdictional effort that includes Riverside County and multiple cities, including the City of Corona in western Riverside County. Rather than address sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 500,000 acres and a mechanism to fund and implement the reserve system (Dudek 2003). Most importantly, the MSHCP allows participating entities to issue take permits for listed species so that individual applicants need not seek their own permits from the USFWS and/or CDFW. The MSHCP was adopted on June 17, 2003, by the Riverside County Board of Supervisors. The Incidental Take Permit was issued by both the USFWS and CDFW on June 22, 2004. The County is the lead agency/permittee, as this property occurs in unincorporated Riverside County.

# 5.0 MSHCP RESERVE ASSEMBLY ANALYSIS

The Glen Ivy Senior Community development is located within the Temescal Canyon Area Plan of the MSHCP. The study area is not within or adjacent to a Criteria Cell, MSHCP conservation, or other conservation land (Figure 13, *MSHCP*). The nearest cell is situated approximately 3,000 feet east of the study area and is separated from the study area by residential development. The nearby Coldwater Creek enters the MSHCP Conservation area approximately 4,000 feet to the north.

The study area is separated from MSHCP criteria cells and MSHCP conservation areas by existing residential and commercial development. The study area is not targeted for conservation. No on-site conservation is required for MSHCP reserve assembly.

## 5.1 PUBLIC QUASI-PUBLIC LANDS

The project study area does not occur on or adjacent to public quasi-public (PQP) lands. No impacts PQP lands are proposed.

## 5.2 LOCAL DEVELOPMENT MITIGATION FEE

Projects within the MSCHP plan area are subject to the MSHCP Local Development Mitigation Fee (LDMF). MSHCP reserve land purchase and management is funded by the collection of the LDMF. The LDMF is determine by the Regional Conservation Authority and adjusted annually. The current fee for commercial and industrial developments is set at $7,606 per acre. The fee for residential development is

$2,234 for less than 8 units per acre, $1,430 for between 8 and 14 units per acre, and $1,161 for more than 14 units per acre.

## 5.3 STEPHENS' KANGAROO RAT HABITAT CONSERVATION PLAN FEES

Because the project is within the Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP) area, the Project Proponent is required to pay a Stephens' kangaroo rat mitigation in accordance with the SKRHCP. The SKRHCP fee for the project shall be an amount determined in coordination with the County. The standard fee is $500 per acre.

# 6.0 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)

The MSHCP requires that all projects be assessed for Section 6.1.2 resources, including riparian/riverine resources, vernal pools fairy shrimp, and riparian birds. The goal is to protect resources used by MSHCP-covered species, as well as existing and future downstream conservation areas.

According to Section 6.1.2 of the MSHCP:

> "**Riparian/Riverine Areas** are 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 fresh water flow during all or a portion of the year."
>
> "**Vernal pools** are 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 manner in which 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."
>
> "**Fairy Shrimp**. For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.


I:\PROJECTS\TT\TAB\TAB-16_GlenIvy\Map\GBRA_MSHCP\Fig13_MSHCP.mxd TAB-16 11/16/2020 - SAB

0 1,200 Feet

Source: Aerial (Maxar, 2018)

HELIX Environmental Planning

MSHCP

Figure 13

> "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."

Note that the MSHCP states that "areas demonstrating characteristics [of riparian/riverine habitat] which are artificially created are not included in these definitions" of riparian/riverine habitat. The identification of Riparian/Riverine and Vernal Pool habitats is based on the potential for the habitat to support Riparian/Riverine and Vernal Pool Covered Species, which are identified in Section 6.1.2 of the MSHCP. These species include least Bell's vireo (*Vireo bellii pusillus*) and a suite of other animals and plants outlined in Section 6.1.2 of the MSHCP. During the field survey, the study area was evaluated for habitat that could support animals and/or plants identified by the MSHCP as Riparian/Riverine and Vernal Pool species.

# 6.1 RIPARIAN/RIVERINE

## 6.1.1 Methods

A Riparian/Riverine and Vernal Pool habitat assessment was conducted by Mr. Hogenauer during site visits on January 28, March 24, and April 13, 2020. Additional information was collected by Mr. Hogenauer for the portion of the study area east of Temescal Canyon Road on October 29, 2020. The assessment was conducted concurrently in the field with the jurisdictional delineation (Section 3.0 above) and Narrow Endemic Plant Species Survey Area (NEPSSA) plant surveys (Section 8.0 below). The initial evaluation on January 28 consisted of a directed search for field characteristics indicative of Riparian/Riverine habitats. Field indicators include presence of certain plant species, drainage courses, drainage patterns, ponded water, changes in soil character, changes in vegetation character, and deposits of water-borne debris. The March 24 visit consisted of a focused survey for Riparian/Riverine and Vernal Pool plant species, along with mapping potential Riparian/Riverine resources in the study area.

A review of historic aerials was performed to aid in determining the origin of the drainage. Historic aerials were reviewed dating back to 1967 (NETRonline 2020).

The MSHCP has a separate definition for "riparian" and for "riverine." Riverine features include those that are natural in origin as well as part natural features that have a been modified and/or redirected and can include featured indirectly created through 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. Riverine features are typically unvegetated or include vegetation similar to surrounding uplands. Riparian features are those with vegetation dependent upon a water source such as a stream, drainage, pond, or similar.

## 6.1.2 Existing Conditions and Results

Potential riverine habitat in the on-site portion of the study area consists of a small drainage (Drainage 1) and an erosional feature in the southwest portion of the study area. Both of these features (as described in Section 4.2.1 above) originate from the impermeable surfaces of the adjacent

development and dissipate on-site. Drainage 1 is 0.02 acre and 172 linear feet long and dissipates on-site. The erosional feature originates from road runoff and dissipates on-site after 49 feet. Drainage 1 and the erosional feature have no connection to downstream resources or upstream resources. The nearest downstream Riparian/Riverine resource is Coldwater Creek that is more than 500 feet from point of dissipation of Drainage 1 and slightly farther from the erosional feature. A review of historic aerials indicates that a natural stream did not occur at the location. Structures associated with the adjacent RV park were constructed between 1967 and 1980 according to the historic aerials. The historic aerial review indicates that the stream is not naturally occurring and not the redirection or modification of a naturally occurring stream.

The drainage occurs primarily under the canopy of one of the many coast live oak trees that occur on the study area. The erosional feature occurs within the non-native woodland habitat. As Drainage 1 and the erosional feature are not of natural origin and do not have a connection to downstream resources, they have been determined by HELIX to not be classified as a Riverine under the MSHCP.

Potential riparian habitat on-site within the study area is comprised of a single Gooding's black willow. The single willow is in poor health as evident by multiple broken branches and a split trunk with a limited number of live branches producing leaves. This single willow occurs near but is not connected to the east end of the Drainage 1. This single willow does not have potential to support animals associated with the MSHCP Riparian/Riverine habitat. The willow comprises 0.02 acre of southern willow scrub habitat that is an MSHCP Riparian resource.

The functions and services of the on-site features are minimal, consisting of conveying small amounts of water, sediment trapping, toxicant trapping, and nutrient trapping. The linear feet and acreage of Drainage 1 and the erosional feature are provided for information purposes. The functions and services of this drainage are limited due to the small size, lack of downstream connection and artificial origin as runoff from the adjacent development. This drainage is not hydrologically connected to any downstream resources with the potential to support species shown in Section 6.1.2 of the MSHCP. The functions and services of the single willow tree (southern willow scrub) consists of minimal potential for wildlife support and toxicant trapping.

The portion of the study area west of Temescal Canyon Road includes potential Riparian/Riverine resources that are the same as those resources discussed as CDFW jurisdictional in Section 4.2.1 above (Figure 7).

**Table 12**
**EXISTING HABITATS EVALUATED FOR RIPARIAN/RIVERINE POTENTIAL**

| | On-Site | |
|---|---|---|
| | Acre[1] | Linear Feet |
| **Riparian Habitat** | | |
| Streambed-Alluvial fan sage scrub (Coldwater Creek-Drainage 3) | 0.55 | 276 |
| Alluvial fan sage scrub | 0.51 | 312 |
| Alluvial fan sage scrub-disturbed | 0.11 | 146 |
| Non-native woodland/Alluvial fan sage scrub | 0.15 | 112 |
| Southern Willow Scrub | 0.02 | 12 |
| Coast live oak woodland | 0.04 | |
| **Riverine** | | |
| Drainage 1* Not MSHCP | 0.02 | 172 |
| Drainage 2 | 0.03 | 72 |
| Erosional feature * Not MSHCP | 0.01 | 49 |
| **Total** | **1.44** | **1,151** |

[1] Acreage rounded to nearest 0.01.
[2] Linear feet for the AFSS habitat areas occur parallel to Drainage 3, and are not cumulative.

Riparian/Riverine habitat east of Temescal Canyon Road includes coast live oak woodland and AFSS in four forms; AFSS, AFSS disturbed, non-native woodland/AFSS, and streambed with AFSS. The streambed/ AFSS occurs within Coldwater Creek (Drainage 3). The other riparian habitats all occur within the floodplain associated with Coldwater Creek. These habitats provide habitat for a variety of plants and animals and have a connection to downstream resources in the MSHCP conservation area. The habitats discussed above are MHSCP Riparian habitats. As discussed above in Section 4.2.1, a flood control facility was recently installed upstream of the floodplain habitat that occurs in the study area. This flood control facility will result in a reduction of the regular bank overflow of Coldwater Creek at the project location and is believed to be for the purpose of protecting Temescal Canyon Road. The reduction of the bank overflow will reduce the frequency of the periodic flooding that the AFSS habitat adjacent to Coldwater Creek within the study area is dependent upon. The reduction of the periodic flooding would potentially result in the reduction of the quality of the AFSS habitat in the study area.

The area east of Temescal Canyon Road also includes a small drainage (Drainage 2) that originates as road runoff from Temescal Canyon Road and traverses the various AFSS habitats and connects to Coldwater Creek. Drainage 2 is an MSHCP Riverine habitat.

### 6.1.3 Impacts

Drainage 1 and the erosional feature were determined to not qualify as MSHCP Riparian/Riverine resources. This determination was based on the artificial origin of the drainage, the lack of connection to downstream resources, and lack of Riparian/Riverine species observed. The southern willow scrub habitat comprised of a single struggling tree was determined to be a MSHCP riparian habitat. The portion of the study area east of Temescal Canyon Road includes several habitats that are MSHCP Riparian/Riverine.

The project proposes temporary impacts to 0.01 acre AFSS, 0.003 acre AFSS-disturbed, 0.05 acre streambed/AFSS, and 0.011 acre coast live oak woodland. Permanent impacts are comprised of 0.02 acre southern willow scrub, 0.005 acre coast live oak woodland, 0.006 acre AFSS, and 0.03 acre

streambed/AFSS. Most of the impacts are related to the construction of the pipeline and outfall structure (Figure 10).

### 6.1.4 Mitigation

The project proposes to mitigate direct impacts to MSHCP Riparian/Riverine resources via purchase of in-lieu fee credits at Riverpark Mitigation Bank or similar approved mitigation bank. Mitigation for permanent impacts to 0.061 acre riparian/riverine habitat and temporary impact to an additional 0.074 acre is proposed to consist of the purchase of 0.06 acre re-establishment credits and 0.14 acre restoration credits at the Riverpark Mitigation Bank or similar bank. (Table 13, *MSCHP Mitigation*).

**Table 13**
**MSHCP MITIGATION**

| Habitat Type | Acres | Ratio | Mitigation |
|---|---|---|---|
| **Permanent** | | | |
| Southern willow scrub | 0.02 | 2:1 | 0.04 |
| Coast live oak woodland | 0.005 | 2:1 | 0.01 |
| Alluvial fan sage scrub | 0.006 | 2:1 | 0.012 |
| Streambed/alluvial fan sage scrub | 0.03 | 2:1 | 0.06 |
| **Temporary** | | | |
| Coast live oak woodland | 0.011 | 1:1 | 0.011 |
| Streambed/alluvial fan sage scrub | 0.05 | 1:1 | 0.05 |
| Alluvial fan sage scrub | 0.01 | 1:1 | 0.01 |
| Alluvial fan sage scrub-disturbed | 0.003 | 1:1 | 0.003 |
| **Totals** | **0.135** | | **0.196** |

The project design includes best management practices (BMPs) to avoid potential indirect impacts to downstream resources. Without the implementation of BMPs runoff from the project has potential to impact downstream resources such as Coldwater Creek that occurs south and east of the study area. The project will capture on-site runoff into a first flush treatment basin on the east side of the project. The basin will have an outfall structure on the east side of Temescal Road that is proposed to be constructed in upland habitats. The overflow from the basin will be directed to this outfall structure. Flows from the outfall structure will connect to Coldwater Creek.

A DBESP with details of the Riparian/Riverine mitigation will be prepared and submitted as a separate document.

## 6.2 VERNAL POOLS

### 6.2.1 Methods

The study area was surveyed by Mr. Hogenauer on January 28, March 24, April 13, and October 29, 2020 for signs of vernal pool, ephemeral ponds, or similar habitat. Vernal pool indicators searched for include standing water, cracked soil, presence of certain plant species, and changes in soil or vegetation

characteristics. Soils information was gathered from U.S. Department of Agriculture online database (USDA 2020).

### 6.2.2 Existing Conditions and Results

The vernal pool assessment revealed that the project does include two large road ruts in the northwest corner of the site. The ruts occur along the driveway that starts at Trilogy Parkway and ends at the fencing for the off-site back flow valve. These areas around the ruts have been used as a dumping ground for spoil piles and landscaping debris as evident by the piles of cut vegetation on both sides of the driveway in which the ruts occur. During the March 24, 2020 assessment these ruts were observed to be holding water as a result of rain received on March 22 and 23, 2020. These ruts were inspected 10 days later and were no longer holding water. The road ruts were inspected again on April 13, 2020 following the site receiving three inches of rainfall between April 6 and 10, 2020, with over two inches of the rainfall occurring on April 9$^{th}$ and 10$^{th}$. The April 13$^{th}$ inspection occurred less than 10 days following the rainfall. The road ruts were saturated but were not holding water. The road ruts lack vegetation and do not have wetland soils. Additionally, the soils mapped at the location of the ruts are Cortina gravelly coarse sandy loam which is not typical soil type for vernal pools. The soils are also highly disturbed in this area from previous deposition of spoils. The road ruts do not meet the MSHCP definition of vernal pools since they lack two of the three criteria (soils and vegetation).

No other potential pools occur in the study area.

### 6.2.3 Impacts

The project will not result in impact to vernal pools as no vernal pools occur within the study area.

## 6.3 FAIRY SHRIMP

Based on the above details the road ruts do not hold water for at least 10 days and as a result, they are not considered potential habitat for sensitive fairy shrimp species. No potential fairy shrimp habitat occurs in the study area.

## 6.4 RIPARIAN BIRDS

### 6.4.1 Methods

The vegetation in the study area was mapped and assessed during multiple site visits in January, March, April, and October 2020. The on-site study area was determined to include a single willow tree that does not comprise potential habitat for MSHCP riparian bird species (including least Bell's vireo [LBVI], southwestern willow flycatcher [SWFL; *Empidonax traillii extimus*], or yellow-billed cuckoo [YBCU; *Coccyzus americanus*]). The riparian habitats present in the study area east of Temescal Canyon Road primarily consist of alluvial fan sage scrub habitats and small patches of coast live oak woodland. Trees in the riparian habitat include tree of heaven, coast live oak, and western sycamore. These habitats do not constitute potential habitat for MSHCP Riparian bird species. The aforementioned riparian bird species utilize willow riparian or similar woodland or forest habitats that are layered. The preferred habitat for the riparian bird species does not occur in the study area.

Other MSHCP riparian bird species are bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*). These species primarily occur adjacent to open water habitats with the peregrine falcon possibly occurring in riparian woodland and forest habitats. Suitable nesting habitat for these species do not occur in the study area.

The study area does not include habitat with potential to support MSHCP riparian birds. No impacts are proposed to occur to riparian bird habitat therefore no surveys or mitigation is required.

## 6.5 PLANTS

### 6.5.1 Plants

The MSHCP lists 23 sensitive plant species that have potential to occur in Riparian/Riverine and Vernal Pool habitats. These species are:

- California black walnut (*Juglans californica* var. *californica*),
- Engelmann oak (*Quercus engelmannii*),
- Coulter's matilija poppy (*Romneya coulteri*),
- San Miguel savory (*Clinopodium chandleri*),
- spreading navarretia (*Navarretia fossalis*),
- graceful tarplant (*Holocarpha virgata* ssp. *elongata*),
- California Orcutt grass (*Orcuttia californica*),
- prostrate navarretia (*Navarretia prostrata*),
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*),
- Orcutt's brodiaea (*Brodiaea orcuttii*),
- thread-leaved brodiaea (*Brodiaea filifolia*),
- Fish's milkwort (*Polygala cornuta* var. *fishiae*),
- lemon lily (*Lilium parryi*),
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*),
- ocellated Humboldt lily (*L. humboldtii ssp. ocellatum*),
- Mojave tarplant (*Deinandra mohavensis*),
- vernal barley (*Hordeum intercedens*),
- Parish's meadowfoam (*Limnanthes gracilis* var. *parishii*),
- slender-horned spineflower (*Dodecahema leptoceras*),
- Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*),
- Brand's phacelia (*Phacelia stellaris*),
- mud nama (*Nama stenocarpum*), and

- smooth tarplant (*Centromadia pungens* ssp. *laevis*)

### 6.5.2 Methods

A focused plant survey of the study area was conducted on March 24, 2020 by HELIX biologists Rob Hogenauer and Dan Torres. A second focused plant survey was conducted by Mr. Hogenauer on May 22, 2020. The surveys included searching for the Riparian/Riverine plant species listed in Section 6.1.2 of the MSHCP.

### 6.5.3 Results

The study area has limited habitat with potential to support Riparian/Riverine and Vernal pool plant species. The plant species associated with Riparian/Riverine and Vernal Pool areas were confirmed to be absent from the study area. A number of the species including California Orcutt grass, spreading navarretia, thread-leaved brodiaea, San Miguel savory, graceful tarplant, prostrate navarretia, San Diego button-celery, Orcutt's brodiaea, Fish's milkwort, lemon lily, San Jacinto Valley crownscale, Mojave tarplant, Brand's phacelia, Santa Ana River woolly-star, vernal barley, and Parish's meadowfoam occur in habitats that do not occur in the study area (e.g., vernal pools) or have distributions well outside of the study area. The remaining species have a distribution that includes the study area or occur in habitats found in the study area and are discussed in greater detail below.

Engelmann oak is a conspicuous tree species associated with alluvial fans and slopes with a mesic aspect. Coast live oak trees occur in the study area. No Engelmann oaks were observed and is presumed to be absent from the study area.

Mud nama is restricted to muddy embankments of marshes and swamps and within lake margins and riverbanks (CNPS 2016). Three populations are known from Riverside County, with two occurring along the San Jacinto River (Dudek 2003). This species was not observed and is presumed to be absent from the study area.

Smooth tarplant is found in southwestern California and northwestern Baja California, Mexico (Baja), and occurs in San Bernardino, Riverside, and San Diego counties. This species occurs in open spaces within a variety of habitats, including alkali scrub and playas, riparian woodland, watercourses, and grasslands with alkaline affinities (Dudek 2003; CNPS 2016). This species was assessed as having low potential to occur but was not observed and is presumed to be absent from the study area.

Coulter's Matilija poppy occurs in dry washes and canyons below 3,600 feet. It often occurs within sage scrub and chaparral habitats. Dense shrub cover may limit expansion of this species (Dudek 2003). This species is easily detected when present. It was not observed and is presumed absent from the study area.

Ocellated Humboldt lily is associated with riparian corridors in coniferous forest and chaparral habitats. Within Western Riverside County, ocellated Humboldt lily is restricted to canyons along the east slope of the Santa Ana Mountains and the north slope of the Palomar Mountains. The riparian habitat on-site is not associated with coniferous forest. This species was not observed and is presumed to be absent from the study area.

Slender-horned spineflower is typically found in mature alluvial scrub with sandy soils but is also found in rocky soils and open chamise chaparral. Ideal habitat is thought to be benches or terraces that receive overbank flow every 50 to 100 years. Habitat for this species does not occur on the study area. This species was not observed and is presumed to be absent from the study area.

None of the 23 MSHCP Riparian/Riverine and Vernal pool plant species were observed in the study area and none are expected to occur within the study area. A list of plant species observed during the field surveys are provided as Appendix A.

## 6.6 OTHER SECTION 6.1.2 SPECIES

Section 6.1.2 of the MSHCP also includes protection of fish and amphibian species.

### 6.6.1 Fish

The Santa Ana sucker is restricted to the Santa Ana River watershed with year-round flows. This species generally lives is small shallow streams less than seven meters wide with various current strengths. They require permanent streams with a gravel bottom preferred. They prefer cool, clear water but can tolerate turbid waters. Habitat for this species is not present in the study area; thus, this species is not expected to occur.

### 6.6.2 Amphibians

The MSHCP Section 6.1.2 includes the protection of three amphibian species, arroyo toad, mountain yellow legged frog, and California red-legged frog. Arroyo toad occur in streams that have breeding pools that are shallow with minimal current. Requirements also include sandy banks with areas of minimal vegetative cover. A minimal amount of streambed does occur in the on-site portion of the study area. However, it is of limited size and of poor quality. Coldwater Creek occurs on the eastern edge of the study area but is mostly avoided and is not considered to be potential habitat for MSHCP amphibian species. Mountain yellow-legged frog and California red-legged frog are not known to occur on or adjacent to the study area. The mountain yellow-legged frog occurs in mountain streams and is currently only known within the County in the San Jacinto Mountains. The California red-legged frog is only known within the County on the Santa Rosa Plateau. It requires deep water with adjacent uplands to move between breeding sites. Habitat for these species does not occur on the study area; thus, none of the MSHCP sensitive amphibian species are expected to occur.

# 7.0 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

The study area is located within a MSHCP Section 6.1.3 NEPSSA.

## 7.1 METHODS

The target Narrow Endemic Plant Species (NEPS) are Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), Slender-horned spineflower (*Dodecahema leptoceras*), Many-stemmed dudleya (*Dudleya multicaulis*), Spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttii*

*californica*), San Miguel savory (*Clinopodium chandleri* [formerly *Satureja chandleri*]), Hammitt's clay-cress (*Sibaropsis hammittii),* and Wright's trichocoronis (*Trichocoronis wrightii* var *wrightii*). On January 28, 2020 Mr. Hogenauer conducted a general survey of the project study area located west of Temescal Canyon road and conducted a habitat assessment to determine the potential for these sensitive NEPS to occur. On April 13, 2020 Mr. Hogenauer repeated the habitat assessment for the potential for these sensitive NEPS on the portion of the study area east of Temescal Canyon Road. The habitat assessments indicated that the study has potential to support some of the NEPS.

Munz's onion is found on clay soils in grassy openings in coastal sage scrub, chaparral, juniper woodland, and grassland habitats. Clay soils do not occur in the study area. Soils that would support Munz's onion do not occur in the study area. This species is not expected to occur in the study area.

San Diego Ambrosia generally occurs in open floodplain terraces or margins of vernal pools. The species is known to occur on Garretson fine sandy loam soils that occur in the study area. Floodplain habitat and fine sandy loam soils occur on the portion of the study area east of Temescal Canyon Road. The eastern portion of the study area has low potential to support San Diego Ambrosia.

Slender horned spineflower is typically found in sandy soils associated with mature alluvial fan sage scrub. Ideal habitat is a bench that receives overbank flow deposits every 50 to 100 years. Alluvial fan scrub occurs in the study area east of Temescal Canyon Road. This habitat receives overbank flows more regularly than is typical for the slender horned spineflower. The portion of the study area east of Temescal Canyon Road is not expected to support slender horned spineflower, but due to the presence of alluvial fan sage scrub, it was not ruled out and was given a low potential to occur.

Many stemmed dudleya are typically associated with clay soils in barrens, rocky places, and ridgelines, as well as openings in chaparral, sage scrub, and grasslands. No clay soils occur in the study area, and the rocky habitat typical for the species is also absent. Habitat within the study area is not typical habitat for this species. Many stemmed dudleya is not expected to occur in the study area.

Spreading navarretia and California Orcutt grass are both species that are associated with vernal pool habitat. No vernal pools habitat occurs in the study area; therefore, these species are not expected to occur.

San Miguel savory occurs on Gabbro and metavolcanic soils in interior foothills, chaparral, and oak woodland. Foothill habitat and appropriate soils do not occur in study area. San Miguel savory is not expected to occur.

Hammit's clay cress occurs in clay lenses within openings in chaparral and grassland habitats. Habitat requirements are similar to those for Munz's onion. Clay soils do not occur on the study area. Similar to Munz's onion, Hammit's clay cress is not expected to occur in the study area.

Wright's trichocoronis is associated with alkali vernal plains associated with alkali playa, alkali grassland, and alkali vernal pool habitats. Alkali habitats do not occur within the study area. As the habitat requirements are not present in the study area, Wright's trichocoronis is not expected to occur.

Based on the above assessment San Diego ambrosia and slender horned spineflower have low potential to occur in the study area. Although these were the only two NEPS determined to have potential to

occur, and the area with potential is primarily east of Temescal Canyon Road, the entire study area was surveyed for sensitive plant species, including surveys for those species that were not expected to occur.

In addition, the target sensitive species are not expected to occur on the study area west of Temescal Canyon Road given the prior disturbance and the dense abundance of non-native grasses and mustards in the area. As documented in MSHCP Table 6.1, some species bloom in early spring, such as Hammitt's clay cress or Munz's onion, while other species bloom later in the spring or early summer, such as San Diego ambrosia. Due to the variable blooming periods, HELIX conducted two focused rare plant surveys.

Surveys were conducted by walked transects across the entire site to allow for 100 percent visual coverage of the study area. Most plants were identified in the field. Those plants unable to be identified to species in the field were keyed in the office to species. The survey method follows the guideline recommended by the CDFW (CDFW 2018).

The first survey was conducted on March 24, 2020, by Mr. Torres and Mr. Hogenauer and covered the portion of the study area west of Temescal Canyon Road. Mr. Hogenauer conducted the first survey of the study area located east of Temescal Canyon Road on April 13, 2020. This was followed by a second survey by Mr. Hogenauer of the entire study area on May 22, 2020. Prior to conducting the May survey Mr. Hogenauer confirmed that a known reference population of San Diego Ambrosia was growing and identifiable at the time of the survey. During each survey a complete list of plant species observed was collected. Although surveys were conducted in March, April, and May, to account for the different blooming periods, the biologists surveyed for all NEPS during each survey.

The project site has been subject to above average rainfall in three of the last four years. Average rainfall is 11.62 inches per year, with the 2019-2020 rain being 17.18 inches (Weather currents 2020). Rainfall in November and December 2019 was 3.27 and 4.81 inches, respectively. This was followed by a dry January and February with a combined 0.85 inch. In March and April, the site received significant rainfall again, with 4.59 inches in March and 3.63 inches in April.

## 7.2 EXISTING CONDITIONS AND RESULTS

The area with the highest potential for NEPS occurs east of Temescal Canyon Road within and adjacent to the alluvial fan sage scrub habitat. The area west of Temescal Canyon Road is highly disturbed from dense non-native species and human activity both of which reduce the potential for NEPS to occur. The plant surveys conducted within the project study area resulted in the observation of 49 plant species. None of the observed plants are NEPS.

## 7.3 IMPACTS

NEPS do not occur in the study area; therefore, no impacts to NEPS are proposed.

# 8.0 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

MSHCP Section 6.3.2 Additional Survey Needs and Procedures includes survey areas for plants, amphibians, burrowing owls, and mammals. These items are discussed below as they apply to the study area.

## 8.1 CRITERIA AREA PLANT SPECIES

The study area is not within a Criteria Area Plant Species Survey Area (CASSA). No surveys for CASSA species are required and none were performed.

## 8.2 AMPHIBIANS

The study area is not within an amphibian survey area. No surveys for amphibians are required and none were conducted.

## 8.3 BURROWING OWL

The study area is within the mapped survey area for burrowing owl and surveys were conducted.

### 8.3.1 Methods

The study area is located within an MSHCP BUOW Survey Area; thus, MSHCP protocol surveys for BUOW are required. In accordance with the County's survey protocol, a Step I-Habitat Assessment for BUOW was conducted by Mr. Hogenauer on April 3, 2020 during which suitable habitat for BUOW was observed (Table 1). The Habitat Assessment included the study area and a 150-meter (approximately 500-foot) buffer zone surrounding the periphery of the study area (survey area; County 2006).

After completing the habitat assessment and in accordance with the survey protocol, Step II surveys were conducted (Table 14, *Burrowing Owl Survey Information*). Step II surveys typically consist of a focused burrow survey (Part A) and four focused BUOW surveys (Part B) to determine whether the survey area supports suitable burrows and/or BUOWs. The habitat assessment and focused burrow survey were conducted concurrently with the first focused BUOW survey. Because suitable burrows were observed within the survey area, additional focused BUOW surveys were conducted (Figure 14, *Potential Burrowing Owls Burrows*). The survey was conducted over a period of four visits per protocol. The biologist walked transects spaced no greater than 30 meters apart (approximately 100 feet) to allow for 100 percent visual coverage of all suitable habitat within the survey area. The biologist walked slowly and methodically, closely checking suitable habitat for suitable burrows, BUOW diagnostic sign (e.g., molted feathers, pellets/castings, or whitewash at or near a burrow entrance), and individual BUOWs. Inaccessible areas of the survey buffer area were visually assessed using binoculars. The focused BUOW surveys were conducted by Mr. Hogenauer between April 3 and May 22, 2020.


I:\PROJECTS\T\TAB\TAB-16 Glenlvy\Map\GBRA_MSHCP\Fig14_BUOW.mxd TAB-16 11/16/2020 - SAB

0 150 Feet

Source: Aerial (RCIT, 2016)

HELIX Environmental Planning

# Potential Burrowing Owl Burrows

Figure 14

**Table 14**
**BURROWING OWL SURVEY INFORMATION**

| Date | Time | Conditions | Personnel |
|---|---|---|---|
| 4/3/20 | 0625-0715 | Start: 10 percent clouds, 50° F, wind 0-1 mph<br>End: 90 percent clouds, 51° F, wind 0-1 mph | Rob Hogenauer |
| 4/17/20 | 0650-0800 | Start: 80 percent clouds, 49° F, wind 0-1 mph<br>End: 80 percent clouds, 54° F, wind 0-1 mph | Rob Hogenauer |
| 4/21/20 | 0650-0730 | Start: 5 percent clouds, 56° F, wind 1-2 mph<br>End: 5 percent clouds, 56° F, wind 1-2 mph | Rob Hogenauer |
| 5/22/20 | 0600-0650 | Start: 0 percent clouds, 54° F, wind 0-1 mph<br>End: 0 percent clouds, 59° F, wind 0-1 mph | Rob Hogenauer |

### 8.3.2 Existing Conditions and Results

The study area includes a limited area with potential to support burrowing owl. No burrowing owl or sign of burrowing owl occupation was observed during the survey. No burrowing owl occur in or adjacent to the study area.

### 8.3.3 Impacts

The project would not result in impacts to burrowing owl.

### 8.3.4 Mitigation

The study area does have habitat with potential to support burrowing owl; therefore, a preconstruction survey is required. Within 30 days prior to initiating ground-disturbance activities, the Project Proponent shall retain a qualified biologist to complete a pre-construction avoidance survey, in accordance with the MSHCP guidelines. If the pre-construction survey is negative and BUOW is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required.

The study area has very low potential to be used by BUOW. However, if one or more BUOW are observed in the study area during the preconstruction survey, the project is required to avoid impacts to BUOW. Project Proponent shall immediately inform the County, RCA, and the wildlife agencies (CDFW and USFWS) of the presence of a BUOW within the study area. No disturbance should occur within 300 feet of an active burrow during the breeding season (March 1 through August 31) except for the purpose of relocation according to an approved BUOW Protection and Relocation Plan. No disturbance should occur within 150 feet of an active BUOW burrow during the non-breeding season (September 1 through February 28). Due to the small size of the study area total avoidance of an active BUOW burrow is not feasible. Preparation of a BUOW Protection and Relocation Plan to be approved by the RCA and/or the wildlife agencies would be required. The plan would also require notification and approval of the State banding permit office and Federal MBTA office if active relocation is needed. This plan would include details of a BUOW capture and relocation to include monitoring of the relocated BUOW. The preferred timing for BUOW relocation is early in the breeding season, prior to the laying of eggs.

In addition to the BUOW Protection and Relocation Plan, a Determination of Biologically Equivalent or Superior Preservation (DBESP) would be required for compliance with the MSHCP. Addressing BUOW impacts generally requires extensive coordination.

## 8.4 MAMMALS

The study area is not within a survey area for mammals. No mammal surveys are required, and none were conducted.

# 9.0 INFORMATION ON OTHER SPECIES

## 9.1 SPECIES NOT ADEQUATELY CONSERVED

The MSHCP includes a table (MSHCP Table 9-3) of 28 species that are not adequately conserved under the MSHCP. These species were not observed on the property during the various site visits conducted on the property.

## 9.2 SPECIAL STATUS PLANT SPECIES

The study area was evaluated for the potential for sensitive plant species to occur. A total of 39 sensitive plant species known to occur in the general vicinity of the study area were evaluated (Appendix B). None of the 39 species was observed in the study area. Twelve of the species evaluated are listed at either the federal or state level, with eight of the twelve listed at both the federal and state level. Three of the listed species have low potential to occur but were not observed. They are the federal and state endangered slender-horned spineflower (*Dodecahema leptoceras*), federal endangered San Diego Ambrosia (*Ambrosia pumila*), and state endangered Plummer's mariposa lily (*Calochortus plummerae*).

An additional seven sensitive (but not listed) species also have low potential to occur in the study area. They are chaparral sand verbena (*Abronia villosa verbena*), Intermediate mariposa lily (*Calochortus weedii intermedius*), smooth tarplant (*Centromadia pungens laevis*), long-spined spineflower (*Chorizanthe polygonoides longispina*), San Miquel savory (*Clinopodium chandleri*), Halls monardella (*Monardella macrantha hallii*), and chaparral ragwort (*Senecio aphanactis*). Although these seven species were assessed as having low potential to occur, they were not observed during the rare plant surveys are presumed absent.

### 9.2.1 Oak Tree

In addition to the sensitive plant species mentioned above, the county of Riverside has an oak tree ordinance that requires that impacts to oak trees be avoided if possible. An oak tree is considered to be impacted if the project results in ground disturbance within the drip line of the tree, or if the branches of the tree require trimming as part of the project design.

An oak tree inventory was completed by HELIX for the study area and is included as Appendix F. The oak tree inventory noted a total of 37 coast live oak trees in the study area.

Oak trees are proposed to be incorporated into the project landscaping to replace those trees proposed for impacts. The project proposes impacts to 31 oak trees (Figure 15, *Oak Tree Locations/Impacts*). One of the trees near the outfall structure is proposed to remain but is included in the impacts due to potential impacts occurring within the tree's dripline. The oak trees assessed to have an overall health rating of A or B (above average or excellent) or higher are proposed to be mitigated at a ratio of 3:1,


I:\PROJECTS\TAB\TAB-16_GlenIvy\Map\GBRA_MSHCP\Fig15_Oakimpacts.mxd TAB-16 4/16/2021 -DY

0 200 Feet

Source: Aerial (RCIT, 2016)

HELIX Environmental Planning

# Oak Tree Locations/Impacts

Figure 15

those given a rating of C (average with stress, damage, or disease) are proposed to be mitigated at 2:1, those with a rating of D (poor health, tree in decline) are proposed to be mitigated at 1:1. No mitigation is proposed for the dead oak trees. This results in a minimum of 65 oak trees to be planted in the project landscaping to mitigate for oak tree impacts. A detailed Oak Tree Mitigation Plan will be submitted under separate documentation.

## 9.3 SPECIAL STATUS ANIMAL SPECIES

The study area was evaluated for the potential for sensitive animal species to occur. Species evaluated are comprised of seven invertebrates, three amphibians, four fish, eleven reptiles, twenty-six birds, and thirteen mammals. There is one species with moderate potential to occur and seventeen species with low potential to occur (Appendix C).

There are nine reptiles with low potential to occur in the study area. These species are: Southern California legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), red-diamond rattlesnake (*Crotalus ruber*), San Bernardino ringneck snake (*Diadophis punctatus modestus*), coast horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), and two-striped gartersnake (*Thamnophis hammondii).*

There is one bird species with moderate potential to occur in the study area. This species is loggerhead shrike (*Lanius ludovicianus*). There are four bird species with low potential to occur in the study area. These species are: Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*).

There are four mammal species with low potential to occur in the study area. These species are: pallid bat (*Antrozous pallidus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), southern grasshopper mouse (*Onychomys torridus ramona*), and American badger (*Taxidea taxus*).

### 9.3.1 Nesting Birds

In addition to the above sensitive animal species, nesting birds are protected under the Migratory Bird Treaty Act (MBTA) and under CDFW code. The MBTA is interpreted as protecting nesting birds from direct impacts while the CDFW code protects nests from direct and indirect impacts. To avoid impacts to nesting birds, vegetation should be cleared between September 1 and February 14. If vegetation is to be cleared during the bird nesting season (February 15 through August 31) a nesting bird survey will be required. If an active nest is detected it shall be avoided and an appropriate buffer established until the nest is determined by the biologist to no longer be active. Standard buffers distances are 100 feet for common songbirds, 300 feet for sensitive bird species, and 500 feet for raptors and listed bird species.

# 10.0 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (SECTION 6.1.4)

Proposed projects within the MSHCP plan area are required to address indirect effects to the MSHCP Conservation area when the project is in proximity to a conservation area. This is addressed in the MSHCP under the Urban/Wildlands Interface Guidelines (UWIG). MSHCP conservation, public quasi-public, or other conservation land does not occur on or adjacent to the study area. The nearest MSHCP conservation area occurs approximately 3,000 feet east of the project site and is separated from the study area by residential development and Interstate 15. Coldwater Creek crosses the eastern portion of the study area and flows north where it enters an MSHCP conservation area approximately 4,000 feet to the north.

The project is not adjacent to an MSHCP conservation area and is therefore not subject to the UWIG. However, the project does include an outfall structure in Coldwater Creek that does connect to an MSHCP conservation area. The UWIG that are not directly applicable to the project are related to lighting, noise, barriers, and grading. The portion of the UWIG that are related to the outfall are invasive plants, drainage and toxic and are discussed below.

## 10.1 INVASIVE PLANTS

The UWIG includes a list of Invasive plants that should be avoided in landscaping for projects adjacent to MSHCP conservation area. It is recommended that all projects avoid the use of invasive plant species, specifically those listed in Table 6-2 of the MSHCP (Appendix E).

## 10.2 DRAINAGE AND TOXICS

All project runoff will be directed to an onsite water quality basin. In the event of high storm flows the basin overflow is being directed to Coldwater Creek. The project will incorporate measures to prevent runoff from entering Coldwater Creek during construction. The project will implement BMPs. These measures will include:

- Use of drip pans under equipment being maintained or parked overnight.
- No storage of petroleum products, chemicals, or similar pollutants within 50 feet of Coldwater Creek.
- No parking of equipment within 50 feet of Coldwater Creek.
- No use of equipment in Coldwater Creek when flows are present.
- Concrete washout stations will be employed.
- No direct untreated discharges adjacent to, or directly into Coldwater Creek.

- Erodible materials shall not be deposited into Coldwater Creek.

# 11.0 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

The project will implement these additional BMPs.

- A water pollution and erosion control plan shall be implemented.
- The project footprint will be minimized, specifically where adjacent to sensitive habitats.
- Limits of work will be clearly flagged. Fencing shall be installed where work is to occur adjacent to sensitive habitats such as alluvial fan sage scrub and Coldwater Creek.
- Workers will limit activities, including parking of personal vehicles, to within the project footprint.
- A biologist shall hold a preconstruction workers environmental awareness training session prior to the start of grading.
- A biologist shall monitor the fence installation in the project area west of Coldwater Creek.
- A biologist shall be present during all work being conducted adjacent to Coldwater Creek, unless the work area is clearly defined by fencing.
- A biologist shall conduct at least weekly spot checks of the work east of Temescal Canyon Road where sensitive habitat exists.
- Project shall be kept clean from debris and all food related trash shall be enclosed in a sealed container and regularly removed from the site.

# 12.0 REFERENCES

American Ornithologists' Union. 2020. AOU Checklist of North and Middle America Birds. Available at: http://checklist.aou.org. Accessed June.

Baker, R.J., et al. 2003. Natural Science Research Laboratory at the Museum of Texas Tech University. Occasional papers Revised Checklist of North American Mammals North of Mexico. December 1.

California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. March 20.

2020. California Natural Diversity Database. RareFind 5. California Department of Fish and Wildlife Data. Available at: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed June 5.

California Native Plant Society. 2020. Inventory of Rare and Endangered Plants of California) online edition, v8-03 0.039) http://www.rareplants.cnps.org/advanced.html. Accessed February 21.

County of Riverside. 1993. Riverside County Oak Tree Management Guidelines. Available at: https://planning.rctlma.org/Portals/14/devproc/guidelines/oak_trees/oak_trees.html. March 2.

Dudek and Associates. 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Final MSHCP, Volume I. Prepared for the County of Riverside Transportation and Land Management Agency. Approved June 17.

Emmel, T.C. and J.F. Emmel. 1973. The Butterflies of Southern California. Natural History Museum of Los Angeles County, Science Series 26: 1-148.

Google Earth. 2020. Aerial imagery of the Glen Ivy Senior Community Study Area, 33.76553, -117.4875. Aerial Imagery from August 2018. Available at: https://earth.google.com/web. Accessed August 5, 2020.

National Archives. 2020. The Navigable Water Protection Rule: Definitions of "Waters of the United States". Federal Register. The daily journal of the United States Government. Online. https://www.federalregister.gov/documents/2020/04/21/2020-02500/the-navigable-waters-protection-rule-definition-of-waters-of-the-united-states. April 21.

NETRonline. 2020. Historic Aerials by NETRonline. https://www.historicaerials.com/. Accessed February 21.

Regional Conservation Authority. 2020. Western Riverside County Multiple Species Habitat Conservation Plan. Local Development Mitigation Fee Schedule for Fiscal Year 2021 (Effective July 1, 2020 – June 31, 2021).

Riverside, County of (County). 2006. Burrowing owl survey instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Environmental Programs Department. Available at: https://www.rctlma.org/Portals/3/EPD/consultant/burrowing_owl_survey_instructions.pdf.

2003. Ordinance 810.2. An Ordinance of the County of Riverside Amending Ordinance 810 to Establish the Western Riverside County Multiple Species Habitat Conservation Plan Mitigation Fee.

1996. Ordinance 663.10. An Ordinance of the County of Riverside Amending Ordinance 663 Establishing the Riverside County Stephens' Kangaroo Rat Habitat Conservation Plan, Plan Fee Assessment Area, and Setting Mitigation Fees.

Taggart, T.W. 2014. The Center for North American Herpetology (CNAH): The Academic Portal to North American Herpetology. Available at: http://www.cnah.org/. November 11.

U.S. Department of Agriculture. 2020. National Resource Conservation Service. Web Soil Survey online. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed February 21.

U.S. Fish and Wildlife Service. 2020a. Critical habitat mapping. GIS files provided by USFWS. Available at: https://ecos.fws.gov/ecp/report/table/critical-habitat.html. Accessed August 14, 2019.

2020b. National Wetlands Inventory. Available at: https://www.fws.gov/wetlands/data/google-earth.html. Accessed February 14.

# Appendix A

## Plant Species Observed

# Appendix A
# Plant Species Observed

| Family | Scientific Name | Common Name |
|---|---|---|
| **ANGIOSPERMS – EUDICOTS** | | |
| Adoxaceae | *Sambucus nigra* ssp. *caerulea* | blue elderberry |
| Anacardiaceae | Malosma laurina | Laurel sumac |
| | *Schinus molle** | Peruvian pepper tree |
| Apiaceae | *Bowlesia incana* | American bowlesia |
| Asteraceae | *Artemisia californica* | California sagebrush |
| | *Baccharis salicifolia* | mule fat |
| | *Centaurea melitensis** | tocalote |
| | *Heterotheca grandiflora* | telegraph weed |
| | *Lepidospartum squamatum* | Scale-broom |
| | *Pseudognaphalium canescens* | White everlasting |
| | *Silybum marianum** | milk thistle |
| Boraginaceae | *Amsinckia intermedia* | rancher's fiddleneck |
| | *Heliotropium curassavicum* | salt heliotrope |
| | *Phacelia cicutaria* var. *hispida* | caterpillar phacelia |
| | *Phacelia* sp. | phacelia |
| | *Plagiobothrys* sp. | popcorn flower |
| Brassicaceae | *Brassica rapa** | field mustard |
| | *Hirschfeldia incana** | short-pod mustard |
| Chenopodiaceae | *Chenopodium californicum* | California pigweed |
| Cucurbitaceae | *Marah macrocarpa* | wild cucumber |
| Euphorbiaceae | *Croton californicus* | California Croton |
| | *Croton setigerus* | dove weed |
| | *Ricinus communis** | castor bean |
| Fabaceae | *Acmispon glaber* | deerweed |
| | *Melilotus indicus** | Indian sweet clover |
| Fagaceae | *Quercus agrifolia* var. *agrifolia* | coast live oak |
| Geraniaceae | *Erodium cicutarium* | redstem filaree |
| Lamiaceae | *Lamium amplexicaule** | henbit |
| | *Marrubium vulgare** | horehound |
| Oxalidaceae | *Oxalis pes-caprae** | Bermuda buttercup |
| Plantanaceae | *Platanus racemosa* | western sycamore |
| Polygonaceae | *Eriogonum fasciculatum* | buckwheat |
| Salicaceae | *Salix gooddingii* | Goodding's black willow |
| Simaroubaceae | *Ailanthus altissima** | tree-of-heaven |
| Solanaceae | *Nicotiana glauca** | tree tobacco |
| | *Solanum douglasii* | Douglas nightshade |
| Tamaricaceae | *Tamarix aphylla** | evergreen saltcedar |
| | *Tamarix ramosissima** | saltcedar |
| Urticaceae | *Urtica dioica* ssp. *holosericea* | stinging nettle |
| | *Urtica urens** | dwarf nettle |
| Vitaceae | *Vitis girdiana* | desert wild grape |

# Appendix A (cont.)
# Plant Species Observed

| Family | Scientific Name | Common Name |
|---|---|---|
| **ANGIOSPERMS – MONOCOTS** | | |
| Arecaceae | *Washingtonia robusta** | Mexican fan palm |
| Poaceae | *Arundo donax* | Giant reed |
| | *Avena* sp.* | oats |
| | *Bromus diandrus** | common ripgut grass |
| | *Bromus madritensis** | foxtail chess |
| | *Festuca microstachys* | fescue |
| | *Hordeum murinum** | hare barley |
| **GYMNOSPERMS** | | |
| Pinaceae | *Pinus* sp.* | pine |

*Non-native species

This page intentionally left blank

# Appendix B

## Special-Status Plant Species Potential to Occur

# Appendix B
# Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status or Potential to Occur |
|---|---|---|---|---|
| *Abronia villosa* var. *aurita* | chaparral sand-verbena | CRPR 1B.1 | Small annual herb. Occurs on sandy floodplains or flats in generally inland, arid areas of sage scrub and open chaparral. Elevation range 0-1,600 meters. Flowering period Mar-Aug. | **Low.** The study area supports sandy loam soils and the habitat is disturbed. Small sheet flow at end of drainage may simulate floodplain. |
| *Allium munzii* | Munz's onion | FE<br>ST<br>CRPR 1B.1<br>MSHCP Conditionally Covered Species[2] | Clay soils, opening in grassland, sage scrub. | **Not expected.** No clay soils or sage scrub in study area. Grasslands do occur on site. Species not observed during focused surveys. |
| *Ambrosia pumila* | San Diego ambrosia | FE<br>CRPR 1B.1<br>MSHCP Conditionally Covered Species[2] | Small perennial herb. Occurs on clay, sandy loam, and sometimes alkaline soils. Found in grasslands, valley bottoms, and dry drainages. Can occur on slopes, disturbed places, in coastal sage scrub and chaparral. Elevation range 50-600 meters. Flowering period Apr-Jul. | **Low.** The study area has sandy loam and grasslands. Species was not observed during focused surveys. |
| *Arenaria paludicola* | Marsh sandwort | FE<br>SE<br>CRPR 1B.1 | Marshes and swamps. | **None.** Study area does not have marshes, swamps, or similar habitat. |
| *Atriplex coronata var. notatior* | San Jacinto Valley Crownscale | FE<br>CRPR 1B.1<br>MSHCP Conditionally Covered Species[3] | Occurs in playas, chenopod scrub, valley and foothill grassland, and vernal pools. From 1,250 to 1,805 feet in elevation. | **None.** Playas and vernal pools habitats don't occur in study area. |
| *Berberis nevinii* | Nevin's barberry | FE<br>SE<br>CRPR 1B.1<br>MSHCP Conditionally Covered Species[3] | Occurs in chaparral, woodland, coastal and riparian scrub communities and cismontane woodland, in gravelly soils. Associated with steep. | **None.** Species conspicuous and was not observed. Habitats are primarily non-native. |

# Appendix B (cont.)
# Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status or Potential to Occur |
|---|---|---|---|---|
| *Brodiaea filifolia* | Thread-leaved brodiaea | FT<br>SE<br>CRPR 1B.1<br>MSHCP Conditionally Covered Species[3] | Occurs in chaparral, cismontane woodlands, coastal scrub, playas, vernal pools, and valley and foothill grasslands, usually in clay soils. From 80 to 2,820 feet in elevation. | **None.** Chaparral, coastal scrub, playas, vernal pools, and clay soils do not occur on site. Species not observed during focused surveys. |
| *Calochortus plummerae* | Plummer's mariposa lily | SE<br>CRPR 4.2 | Rocky and sandy soils, in scrub, chaparral, woodland and grassland. | **Low to not expected.** Sage scrub, chaparral do not occur in study area. Rocky sandy soils do not occur in study area. |
| *Calochortus weedii var. intermedius* | intermediate mariposa lily | CRPR 1B.2<br>MSHCP Covered Species | Medium perennial herb. Occurs on dry, rocky slopes within openings in chaparral, coastal scrub, and grassland habitats. Elevation range 0-680 meters. Flowering period Jun-Jul. | **Low to not expected.** Grassland occurs on site, but other species habitat requirements do not occur. |
| *Centromadia pungens* ssp. *laevis* | smooth tarplant | CRPR 1B.1<br>MSHCP Conditionally Covered[4] | Annual herb. Occurs within valley and foothill grasslands, particularly near alkaline locales. Elevation range 50-880 meters. Flowering Apr-Sep. | **Low.** The study area has grasslands but lacks alkaline soils. |
| *Chloropyron maritimum ssp. Maritimum* | Salt marsh bird's beak | FE<br>SE<br>CRPR 1B.1<br>MSHCP Conditionally Covered[4] | Coastal dunes, marshes and swamps, Often in saline areas. | **None.** Study area does not include saline areas or other habitats in which species occurs. |
| *Chorizanthe parryi* var. *parryi* | Parry's spineflower | CRPR 1B.1<br>MSHCP Conditionally Covered[3] | Annual herb. Occurs in sandy or rocky openings within chaparral and coastal sage scrub. Elevation range 90-800 meters. Flowering May-Jun. | **None.** The study area does not include chaparral or sage scrub habitats. Soils are sandy loam. |
| *Chorizanthe polygonoides var. longispina* | long-spined spineflower | CRPR 1B.2<br>MSHCP Covered Species | Small annual herb. Occurs within clay lenses largely devoid of shrubs. Can be occasionally seen on vernal pool and even montane meadows peripheries near vernal seeps. Elevation range 30-1,500 meters. Flowering period Apr-Jun. | **Low.** Soils are sandy loam, drainage runoff on site could simulate a seep. Clay lenses unlikely to occur. |

# Appendix B (cont.)
# Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status or Potential to Occur |
|---|---|---|---|---|
| *Clinopodium chandleri* | San Miguel savory | CRPR 1B.2<br>MSHCP Covered Species[2] | Medium perennial herb. Occurs on Gabbro and metavolcanic soils in interior foothills, chaparral, and oak woodland. Elevation range 0-1,100 meters. Flowering period Mar-Jul. | **Low.** The study area lacks suitable soils, but oak woodland does occur. |
| *Comarostaphylis diversifolia ssp. Diversifolia* | Summer holly | CRPR 1B.2 | Chaparral and cismontane woodland. | **None.** Study area does not support habitat for species. |
| *Dodecahema leptoceras* | Slender-horned spineflower | FE<br>SE<br>CRPR 1B.1<br>MSHCP Conditionally Covered[4] | Chaparral, woodland, scrub, sandy soil. | **Low to not expected.** Chaparral and sage scrub do not occur in study area. Sandy loam and oak woodland do occur. |
| *Dudleya multicaulis* | Many-stemmed dudleya | CRPS 1B.2<br>MSHCP Conditionally Covered[4] | Clay soils in barren, rocky areas with limited vegetation. | **None.** Study area does not have clay soils. |
| *Eriastrum densifolium ssp. Sanctorum* | Santa Ana River woollystar | FE<br>SE<br>CRPS 1B.1<br>MSHCP Conditionally Covered[4] | Santa Ana River, Lytle Creek, and Cajon creek flood plains. Usually in areas with less than 50 percent cover. | **None.** Study area not in floodplain, and is outside known range of species. |
| *Harpagonella palmeri* | Palmer's grapplinghook | CRPR 4.2 | Clay soil, chaparral, sage scrub and grassland. | **None.** Study area lack clay soils, chaparral and sage scrub. |
| *Hesperocyparis forbesii* | Tecate cypress | CRPR 1B.1 | Clay, gabbroic or metavolcanic soils in coniferous forest or chaparral. | **None.** Study area lacks suitable soils and suitable habitat. Species conspicuous and was not observed. |
| *Hordeum intercedens* | vernal barley | CRPR 3.2<br>MSHCP Covered Species | Small annual grass. Saline flats and depressions in grasslands or in vernal pool basins. Elevation range 5-1,000 meters. Flowering period Mar-Jun. | **None.** The study area does not support saline soils or vernally moist areas. |

# Appendix B (cont.)
# Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status or Potential to Occur |
|---|---|---|---|---|
| *Horkelia cuneata var. puberula* | mesa horkelia | CRPR 1B.1 | Medium perennial herb. Occurs in sandy or gravelly areas within chaparral, coastal sage scrub, and coastal mesas. Elevation range 70-870 meters. Flowering period Mar-Jul. | **None.** The study area lacks suitable habitat. |
| *Lasthenia glabrata* ssp. *coulteri* | Coulter's goldfields | CRPR 1B.1<br>MSHCP Conditionally Covered[4] | Alkaline habitats associated w/Travers, Domino, and Willows soil. Flowering period Apr-May. | **None.** The study area does not have alkaline habitats or appropriate soils. |
| *Lepechinia cardiophylla* | Heart-leaved pitcher sage | CRPR 1B.2 | Perennial shrub found in coniferous forests, chaparral and cismontane woodland. | **None.** Study area does not support appropriate habitat. |
| *Lepidium virginicum var robinsonii* | Robinson's pepper-grass | CRPR 4.3 | Openings in chaparral and sage scrub, typically dry sites | **None.** Study area does not have chaparral or sage scrub. |
| *Monardella hypoleuca ssp. Intermedia* | Intermediate monardella | CRPR 1B.3 | Chaparral, cismontane woodland and occasionally coniferous forest. | **None.** Study area does not support appropriate habitats. |
| *Monardella macrantha ssp. Hallii* | Hall's monardella | CRPR 1B.3 | Broad leaf forest, coniferous forest, chaparral, cismontane woodland and grassland. | **Low to not expected.** Study areas include grassland. Other habitats absent. |
| *Myosurus minimus* ssp*. apus* | little mousetail | CRPR 3.1<br>MSHCP Conditionally Covered[4] | Small annual herb. Vernal pools and alkaline marshes. This cryptic species typically grows in the deeper portions of vernal pool basins, sprouting immediately after the surface water has evaporated. Elevation range 20-640 meters. Flowering period Mar-Jun. | **None.** The study area does not support vernal pool habitat. |
| *Navarretia fossalis* | spreading navarretia | FT/--<br>CRPR 1B.1<br>MSHCP Conditionally Covered[2] | Small annual herb. Occurs in vernal pools, vernal swales, or roadside depressions. Population size is strongly correlated with rainfall. Depth of pool appears to be a significant factor as this species is rarely found in shallow pools. Elevation range 30-1,300 meters. Flowering period Apr-Jun. | **None.** The study area does not support vernal pool habitat or roadside depressions. |

# Appendix B (cont.)
# Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status or Potential to Occur |
|---|---|---|---|---|
| *Nolina cismontane* | Chaparral nolina | CRPS 1B.2 | Chaparral and coastal scrub. | **None.** Study area does not include chaparral or coastal scrub. |
| *Orcuttia californica* | California Orcutt grass | FE/SE<br>CRPR 1B.1<br>MSHCP Conditionally Covered Species[2] | Small annual herb. Occurs in or near vernal pools. This species tends to grow in wetter portions of the vernal pool basin but does not show much growth until the basins become somewhat desiccated. Elevation range 0-700 meters. Flowering period Apr-Aug. | **None.** The study area does not support vernal pool habitat. |
| *Phacelia keckii* | Santiago Peak phacelia | CRPR 1B.3 | Closed cone coniferous forest, chaparral above 1,500 feet AMSL. | **None.** Study area below 1,500 feet AMSL, and does not support appropriate habitat. |
| *Phacelia stellaris* | Brand's star phacelia | CRPR 1B.1 | Coastal dunes and scrub. | **None.** Study area does not support appropriate habitat. |
| *Pseudognaphalium leucocephalum* | white rabbit-tobacco | CRPR 2B.2 | Medium biennial or short-lived perennial herb. Occurs in sandy and gravelly benches, dry stream and canyon bottoms within woodland, coastal scrub, and chaparral. Elevation range below 500 meters. Flowering period Jul-Oct. | **None.** The study area does not support suitable habitat for this species. |
| *Senecio aphanactis* | Chaparral ragwort | CRPR 2B.2 | Chaparral, woodland and coastal scrub. | **Low to not expected.** Study area has oak woodland but lacks other suitable habitat. |
| *Sibaropsis hammittii* | Hammitt's claycress | CRPR 1B.2 | Clay soils. In openings in chaparral or grassland. | **None.** Study area does not have clay soils. |
| *Sidalcea neomexicana* | Salt spring checkerbloom | CRPR 2B.2 | Alkaline mesic soils, chaparral, coastal and desert scrub, playas. | **None.** Study area lacks appropriate habitat. |

# Appendix B (cont.)
# Special-Status Plant Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status or Potential to Occur |
|---|---|---|---|---|
| *Symphyotrichum defoliatum* | San Bernardino aster | CRPR 1B.2 | Large perennial herb. Occurs in vernally mesic soils within cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, grasslands, streams, springs, and disturbed ditches. Elevation range 0-2,050 meters. Flowering period Jul-Nov. | **None.** The study area does not support vernally mesic soils. |
| *Texosporium sancti-jacobi* | Woven-spored lichen | CRPR 3 | | |

[1] Refer to Appendix D for an explanation of MSHCP designation and sensitivity status codes.
[2] Surveys may be required for these species within Narrow Endemic Plant Species Survey Area (MSHCP Section 6.1.3).
[3] These species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met (MSHCP Table 9-3).
[4] Surveys may be required for these species within Criteria Area Species Survey Area (MSHCP 6.3.2).

This page intentionally left blank

# Appendix C

## Special-Status Animal Species Potential to Occur

# Appendix C
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| **INVERTEBRATES** | | | | |
| **Crustaceans** | | | | |
| *Branchinecta sandiegoensis* | San Diego fairy shrimp | FT | Most commonly found in swale, earth slump, or depression pools in unplowed grasslands. Requires cool-water pools. | **None.** The study area does not support vernal pools. |
| *Streptocephalus woottoni* | Riverside fairy shrimp | FE<br>MSHCP Conditionally Covered Species[2] | Typically deep vernal pools and seasonal wetlands at least 30 centimeters deep. | **None.** The study area does not support vernal pools. |
| **Insects** | | | | |
| *Bombus crotchii* | Crotch bumble bee | CE | Scrub and grassland habitats. Uses sage, sunflowers, and similar species for nectar. | **Not expected.** Scrub habitat occurs in study area. Limited grassland occurs. |
| *Carolella busckana* | Busck's gallmoth | | Coastal dunes. | **None.** Habitat for species does not occur in study area. |
| *Ceratochrysis longimala* | Desert cuckoo wasp | | Possibly, sage scrub, specific unknown. Last CNDDB record in Riverside County from 1915. Possibly extirpated. | **None.** Sage scrub does not occur in study area. |
| *Cicindela senilis frosti* | Senile tiger beetle | | Mud shore, wetlands at marine shoreline, salt marshes, and lake Elsinore. | **None.** Muddy, and wetland habitats do not occur in study area. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Euphydryas editha quino* | Quino checkerspot butterfly | FE<br>MSHCP Covered Species | Primary larval host plants in San Diego are dwarf plantain (*Plantago erecta*) at lower elevations, woolly plantain (*P. patagonica*) and white snapdragon (*Antirrhinum coulterianum*) at higher elevations. Owl's clover (*Castilleja exserta*) is considered a secondary host plant if primary host plants have senesced. Potential habitat includes vegetation communities with areas of low-growing and sparse vegetation. These habitats include open stands of sage scrub and chaparral, adjacent open meadows, old foot trails and dirt roads. | **None.** The study area does not support this species' host plant. |
| **Amphibians** | | | | |
| Anaxyrus californicus | Arroyo toad | FE | Slow moving perennial or near perennial streams with sparse vegetation cover, and sandy banks. Requires backflow or side channels/pools for breeding and adjacent sandy uplands for overwintering. | **Not expected.** Coldwater Creek at this location is intermittent with flows limited to only a few months of the year. Stream banks are too densely vegetated and surrounded by development thus restricted upland movement and overwintering area. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Spea hammondii* | western spadefoot | SSC<br>MSHCP Covered Species | Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; require temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* spp.) | **None.** The study area does not support suitable habitat. |
| *Taricha torosa* | Coast Range newt | SSC | Grassland, woodland associated with ponds, slow-moving streams. | **None.** Streams with regular flow do not occur in study area. |
| **Fish** | | | | |
| *Catostomus santaanae* | Santa Ana sucker | FT | Shallow permanent streams. | **None.** Permanent streams do not occur in the study area. |
| *Gila orcuttii* | Arroyo chub | SSC | Prefers slow moving streams or backwaters with sand or mud bottoms. Streams typically deeper than 40 centimeters (16 inches). | **None.** Flowing streams do not occur in study area. |
| *Oncorhynchus mykiss irideus* | Steelhead trout | FE | Prefers streams and rivers with dissolved oxygen concentration is at least 7 parts per million. Deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates free of excessive silt. | **None.** Flowing streams do not occur in study area. |
| *Rhinichthys osculus* | Santa Ana speckled dace | SSC | Streams with year round flow. | **None.** Streams with year round flow do not occur in study area. |
| **Reptiles** | | | | |
| *Anniella stebbinsi* | Southern California legless lizard | SSC | Coastal dune, sandy washed, alluvial fans, oak woodlands, conifer forest, sandy soils. | **Low.** Oak woodlands occur in study area, but soils are sandy loam. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Arizona elegans occidentalis* | California glossy snake | --/SSC | Most common in desert habitats, but also occurs in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland. Associated with sandy open areas with sparse shrub cover, but can also occur in rocky habitats. | **Low.** The study area does not support chaparral, forest, or sagebrush habitats. However, the study area supports grassland and sandy loam soils. |
| *Aspidoscelis hyperythra* | orange-throated whiptail | --/WL<br>MSHCP Covered Species | Chaparral, sage scrub, grassland, woodland, and riparian areas. | **Low.** The study area supports a limited amount of grassland and oak woodlands. Chaparral, sage scrub and riparian habitats do not occur. |
| *Aspidoscelis tigris stejnegeri* | Coastal whiptail | SSC<br>MSHCP Covered Species | Open rocky areas with sparse vegetation usually scrub or grassland. | **Low.** Open habitats occur in study area, but not rocky habitat. Species locally common. |
| *Coleonyx variegatus abbotti* | San Diego banded gecko | SSC | Deserts scrub to chaparral; micro-habitat desert species. | **None.** Desert habitats do not occur in study area. |
| *Crotalus ruber* | Red-diamond rattlesnake | SSC | Heavy brush, boulders, can use a variety of habitats. Prey density a determining factor. | **Low.** Typically habitat does not occur in study area. Species locally common. |
| *Diadophis punctatus modestus* | San Bernardino ringneck snake | | Moist habitats. woodlands, farms, grassland, chaparral. | **Low.** Grassland and oak woodland occur in study area, but lacks moist habitat. |
| *Emys marmorata* | western pond turtle | SSC<br>MSHCP Covered Species | Almost entirely aquatic; occurs in freshwater marshes, creeks, ponds, rivers and streams, particularly where basking sites, deep water retreats, and egg laying areas are readily available. | **None.** The study area does not support stream, ponds, or other aquatic habitats with standing or flowing water. |
| *Phrynosoma blainvillii* | Coast horned lizard | SSC | Grassland, scrub, chaparral, woodland with a supply of prey (ants). | **Low.** Grassland occurs in study area, but not other habitats. Ants present. |
| *Salvadora hexalepis virgultea* | Coast patch-nosed snake | SSC | Coastal and desert scrub, chaparral, washes. A generalist. | **Low.** Typical habitat not present in study area, but species is a generalist. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Thamnophis hammondii* | Two-striped gartersnake | SSC | Stream course with adjacent dense vegetation. | **Low.** Habitat does not occur on site, but species may wander into study area from nearby Coldwater Creek. |
| **Birds** | | | | |
| *Accipiter cooperii* | Cooper's Hawk | WL<br>MSHCP Covered Species | Forest and woodland habitats. Will forage in grasslands. | **Low.** Foraging habitat occurs in study area. Unlikely for species to nest in study area. |
| *Agelaius tricolor* | Tricolored blackbird | SSC<br>MSHCP Covered Species | Wetland with dense cattails, tall grasses or thickets of willows. | **None.** Wetland habitat does not occur in study area. |
| *Aimophila ruficeps canescens* | southern California rufous-crowned sparrow | --/WL<br>MSHCP Covered Species | Hillsides, with grassland, sage scrub, or chaparral. | **None.** The study area does not have hillsides, sage scrub or chaparral. |
| *Amphispiza belli belli* | Bell's sage sparrow | WL<br>MSHCP Covered Species | Evenly spaced sage scrub. | **None.** Sage scrub does not occur in study area. |
| *Asio otus* | Long-eared owl | SSC | Dense vegetation adjacent to open grassland or shrubland, and open forests. | **None.** Grassland in study area limited and lacks dense shrubland or forest habitat. |
| *Athene cunicularia* | burrowing owl | --/SSC<br>MSHCP Conditionally Covered[3] | Grasslands, fallow agriculture, or areas of sparse perennial cover with burrows (preferably from fossorial mammals). | **Presumed Absent.** Although the study area has potential habitat with low potential to support the species, no burrowing owls were observed during focused surveys conducted for the project in 2020. |
| *Buteo swainsoni* | Swainson's hawk | ST<br>MSHCP Covered Species | Open desert, sparse scrub with large trees. | **None.** Open desert and scrub habitat does not occur in the study area. |
| *Campylorhynchus brunneicapillus sandiegensis* | Coastal cactus wren | SSC | Scrub, desert thickets, and areas with large branching cacti. | **None.** Study area does not have appropriate habitat. |
| *Charadrius alexandrines nivosus* | Western snowy plover | FT<br>SSC | Coastal beaches, sand dune beaches, river mouths, estuaries. | **None.** Study area does not have appropriate habitat. |
| *Circus cyaneus* | Northern harrier | SSC | Meadows, grassland, scrub, rarely in woodland. Roosts on ground. | **Low.** The study area includes small amounts of grassland and similar habitat. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Coccyzus americanus occidentalis* | Western yellow-billed cuckoo | FT<br>SE<br>MSHCP Covered Species | Dense, thick riparian with willows, dense understory, slow-moving watercourses. | **None.** Study area does not support riparian habitats. |
| *Coturnicops noveboracensis* | Yellow rail | SSC | Shallow marshes and wet meadows. Generally an eastern U.S. species. Also known in northern California. | **None.** Study does not include appropriate habitat. |
| *Elanus leucurus* | White-tailed kite | FP | Grassland, agriculture with nearby woodland for nesting. | **Low.** Study area include small amount of grassland, but woodland for nesting does not occur on site. |
| *Empidonax traillii extimus* | Southwestern willow flycatcher | FE<br>SE<br>MSHCP Conditionally Covered Species | Dense mature riparian woodland with willows and/or cottonwoods. | **None.** Mature riparian habitat does not occur in study area. |
| *Eremophila apestris actia* | California horned lark | --/WL<br>MSHCP Covered Species | Grassland, agricultural fields, and disturbed fields. | **Low.** The study area supports grassland and disturbed habitat, but the habitats in the study area are not those typically used by the species. This species typically occurs in flocks and was not observed during field surveys. |
| *Haliaeetus leucocephalus* | Bald eagle | SE<br>FP<br>MSHCP Covered | Large bodies of open water for foraging, Nearby trees for nesting and roosting. | **None.** Open water does not occur on or adjacent to study area. |
| *Icteria virens* | Yellow-breasted chat | SSC | Wide riparian woodland, dense willow thickets, with a well-developed understory. | **None.** Riparian habitat does not occur in study area. |
| *Lanius ludovicianus* | Loggerhead shrike | SSC<br>MSHCP Covered Species | Open grassland or shrubland with trees, utility poles, fence post or other perch sites. | **Moderate.** Grassland, trees, and perch sites occur on study area. |
| *Laterallus jamaicensis coturniculus* | California black rail | ST<br>FP | Salt marshes, freshwater marsh, wet meadows, and mesic grasslands. | **None.** Habitat for species does not occur in study area. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Pandion haliaetus* | Osprey | WL | Breeds in variety of habitats with shallow water and large fish, including boreal forest ponds, desert salt-flat lagoons, temperate lakes, and tropical coasts. Winters along large bodies of water containing fish. | **None.** Waters with fish do not occur in study area. |
| *Plegadis chihi* | White-faced ibis | WL<br>MSHCP Covered Species | Shallow marshes, spoils banks, meadows, marshes. | **None.** Study area does not include appropriate habitat. |
| *Polioptila californica* | coastal California gnatcatcher | FT/SSC<br>MSHCP Covered Species | Mature coastal sage and other scrub varieties. | **None.** Sage scrub does not occur on or adjacent to study area. |
| *Setophaga petechia* | Yellow warbler | SSC<br>MSHCP Covered Species | Riparian woodland and scrub. | **None.** Riparian habitat does not occur on the study area. |
| *Spinus lawrencei* | Lawrence's goldfinch | | Arid open woodlands, near chaparral, weed fields and small bodies of water. | **None.** Chaparral and bodies of water do not occur in or adjacent to the study area. |
| *Vireo bellii pusillus* | Least Bell's vireo | FE<br>SE<br>MSHCP conditionally covered species. | Riparian areas with dense ground cover and stratified canopy, prefers willows. | **None.** Habitat for species does not occur in study area. |
| *Vireo bellii pusillus* | Least Bell's vireo | FE<br>SE | Riparian areas with dense ground cover and stratified canopy, prefers willows. | **None.** Study area does not include appropriate habitat. |
| **Mammals** | | | | |
| *Antrozous pallidus* | Pallid bat | SSC | Coniferous forests, various woodlands , deserts and rocky terrain. | **Low to not expected.** Sparse oak woodland occurs, but not other habitat requirements. |
| *Chaetodipus fallax fallax* | Northwestern San Diego pocket mouse | SSC | Sage scrub and grassland, sandy soils. | **None.** Study area does not have sandy soils or sage scrub. |
| *Dipodomys merriami parvus* | San Bernardino kangaroo rat | FE<br>SSC | Sage scrub, sandy soils, alluvial fans, floodplains. | **None.** Study area does not include habitat for species. |
| *Dipodomys stephensi* | Stephens' kangaroo rat | FE/ST<br>MSHCP Covered Species | Open grassland and scrub areas with sparse perennial cover and loose soil. | **None.** Sage scrub and open grassland do not occur in study area. |

# Appendix C (cont.)
# Special-Status Animal Species Potential to Occur

| Scientific Name | Common Name | Sensitivity Status[1] | Habitat | Status on Study area |
|---|---|---|---|---|
| *Eumops perotis californicus* | Western mastiff bat | SSC | Roosts on cliffs, foraging over open areas with washes. | **None.** Study area does not support habitat for species. |
| *Lasiurus xanthinus* | Western yellow bat | SSC | Desert grassland and scrub with an associated water feature. | **None.** Desert grassland and scrub with water feature do not occur in study area. |
| *Lepus californicus bennettii* | San Diego black-tailed jackrabbit | --/SSC MSHCP Covered Species | Grassland, agriculture with nearby shrubs for cover. | **Low to Moderate.** The disturbed areas and grasslands provide foraging habitat for this species and the non-native vegetation provides shrub habitat. Species locally common. |
| *Myotis yumanensis* | Yuma myotis | | Juniper and riparian woodland, near open water. Roosts in caves, mines, bridges. | **None.** Study area does not support habitat for species. |
| *Neotoma lepida intermedia* | San Diego desert woodrat | SSC | Scrub and desert, rock outcrops, or areas of dense cover. | **None.** Desert scrub and rocky habitat does not occur in study area. Middens not observed during surveys. |
| *Nyctinomops femorosaccus* | Pocketed free-tailed bat | SSC | Desert scrub, roosts in cliffs, rocky crevices in small colonies. | **None.** Desert scrub, cliffs, rocky habitat do not occur in study area. |
| *Onychomys torridus ramona* | Southern grasshopper mouse | SSC | Grassland and sparse sage scrub. | **Low.** Sparse sage scrub does not occur, but small amount of dense grassland occurs in study area. |
| *Perognathus longimembris brevinasus* | Los Angeles pocket mouse | SSC | Fine sandy soils with sparse vegetation. | **None.** Soils more loamy, grassland dense with limited open ground in study area. |
| *Taxidea taxus* | American badger | SSC | Upland grasslands, meadows, field. | **Low.** Grassland occur in study area, but area is surrounded by development and species typically avoids development. |

[1] Please refer to Appendix D for an explanation of MSHCP designation and sensitivity status codes.

This page intentionally left blank

# Appendix D

## Explanation of Status Codes for Plants and Animals

# Appendix D
# Explanation of Status Codes for Plant and Animal Species

## U.S. FISH AND WILDLIFE SERVICE (USFWS)

BCC Birds of Conservation Concern
FE Federally listed endangered
FT Federally listed threatened

## CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

SE State listed endangered
ST State listed threatened
SSC State species of special concern
WL Watch List
FP Fully Protected

## MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP) COVERED

MSHCP Covered indicates that the species is part of a proposed list of species (146 total) considered at this time to be adequately conserved by the Western Riverside MSHCP, provided that participants meet all conditions listed in the Final MSHCP.

## CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CODES

### Lists

1A = Presumed extinct.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.

4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

### List/Threat Code Extensions

.1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 = Fairly endangered in California (20 to 80 percent occurrences threatened)

.3 = Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A CA Endemic entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no threat code extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Code.

# Appendix E

## Table 6-2: Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area

# Appendix E
## Table 6-2
## Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area

| BOTANICAL NAME | COMMON NAME |
|---|---|
| *Acacia* spp. (all species) | acacia |
| *Achillea millefolium* | var. *millefolium* common yarrow |
| *Ailanthus altissima* | tree of heaven |
| *Aptenia cordifolia* | red apple |
| *Arctotheca calendula* | cape weed |
| *Arctotis* spp. (all species & hybrids) | African daisy |
| *Arundo donax* | giant reed or arundo grass |
| *Asphodelus fistulosus* | asphodel |
| *Atriplex glauca* | white saltbush |
| *Atriplex semibaccata* | Australian saltbush |
| *Carex* spp. (all species*) | sedge |
| *Carpobrotus chilensis* | ice plant |
| *Carpobrotus edulis* | sea fig |
| *Centranthus ruber* | red valerian |
| *Chrysanthemum coronarium* | annual chrysanthemum |
| *Cistus ladanifer* | (incl. hybrids/varieties) gum rockrose |
| *Cortaderia jubata* [*syn.C. Atacamensis*] | jubata grass, pampas grass |
| *Cortaderia dioica* [syn. *C. sellowana*] | pampas grass |
| *Cotoneaster* spp. (all species) | cotoneaster |
| *Cynodon dactylon* | (incl. hybrids varieties) Bermuda grass |
| *Cyperus* spp. (all species*) | nutsedge, umbrella plant |
| *Cytisus* spp. (all species) | broom |
| *Delosperma 'Alba'* | white trailing ice plant |
| *Dimorphotheca* spp. (all species) | African daisy, Cape marigold |
| *Drosanthemum floribundum* | rosea ice plant |
| *Drosanthemum hispidum* | purple ice plant |
| *Eichhornia crassipes* | water hyacinth |
| *Elaeagnus angustifolia* | Russian olive |
| *Eucalyptus* spp. (all species) | eucalyptus or gum tree |
| *Eupatorium coelestinum* [syn. Ageratina sp.] | mist flower |
| *Festuca arundinacea* | tall fescue |
| *Festuca rubra* | creeping red fescue |
| *Foeniculum vulgare* | sweet fennel |
| *Fraxinus uhdei* | (and cultivars) evergreen ash, shamel ash |
| *Gaura* (spp.) (all species) | gaura |
| *Gazania* spp. (all species & hybrids) | gazania |
| *Genista* spp. (all species) | broom |
| *Hedera canariensis* | Algerian ivy |
| *Hedera helix* | English ivy |
| *Hypericum* spp. (all species) | St. John's Wort |
| *Ipomoea acuminata* | Mexican morning glory |
| *Lampranthus spectabilis* | trailing ice plant |
| *Lantana camara* | common garden lantana |
| *Lantana montevidensis* [syn. *L. sellowiana*] | lantana |
| *Limonium perezii* | sea lavender |
| *Linaria bipartita* | toadflax |
| *Lolium multiflorum* | Italian ryegrass |

# Appendix E (cont.)
## Table 6-2
## Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area

| BOTANICAL NAME | COMMON NAME |
|---|---|
| *Lolium perenne* | perennial ryegrass |
| *Lonicera japonica* | (incl. 'Halliana') Japanese honeysuckle |
| *Lotus corniculatus* | birdsfoot trefoil |
| *Lupinus arboreus* | yellow bush lupine |
| *Lupinus texanus* | Texas blue bonnets |
| *Malephora crocea* | ice plant |
| *Malephora luteola* | ice plant |
| *Mesembryanthemum nodiflorum* | little ice plant |
| *Myoporum laetum* | myoporum |
| *Myoporum pacificum* | shiny myoporum |
| *Myoporum parvifolium* | (incl. 'Prostratum') ground cover myoporum |
| *Oenothera berlandieri* | Mexican evening primrose |
| *Olea europaea* | European olive tree |
| *Opuntia ficus-indica* | Indian fig |
| *Osteospermum spp. (all species)* | trailing African daisy, African daisy, |
| *Oxalis pes-caprae* | Bermuda buttercup |
| *Parkinsonia aculeata* | Mexican palo verde |
| *Pennisetum clandestinum* | Kikuyu grass |
| *Pennisetum setaceum* | fountain grass |
| *Phoenix canariensis* | Canary Island date palm |
| *Phoenix dactylifera* | date palm |
| *Plumbago auriculata* | cape plumbago |
| *Polygonum* spp. (all species) | knotweed |
| *Populus nigra 'italica* | ' Lombardy poplar |
| *Prosopis* spp. (all species*) | mesquite |
| *Ricinus communis* | castor bean |
| *Robinia pseudoacacia* | black locust |
| *Rubus procerus* | Himalayan blackberry |
| *Sapium sebiferum* | Chinese tallow tree |
| *Saponaria officinalis* | bouncing bet, soapwort |
| *Schinus molle* | Peruvian pepper tree, California pepper |
| *Schinus terebinthifolius* | Brazilian pepper tree |
| *Spartium junceum* | Spanish broom |
| *Tamarix* spp. (all species) | tamarisk, salt cedar |
| *Trifolium fragiferum* | strawberry clover |
| *Tropaeolum majus* | garden nasturtium |
| *Ulex europaeus* | prickly broom |
| *Vinca major* | periwinkle |
| *Yucca gloriosa* | Spanish dagger |

An asterisk (*) indicates some native species of the genera exist that may be appropriate.

**Sources:** California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, Fremontia Vol. 26 No. 4, October 1998, The Jepson Manual; Higher Plants of California, and County of San Diego-Department of Agriculture.

This page intentionally left blank

# Appendix F

## 2020 Oak Tree Survey Report

**HELIX Environmental Planning, Inc.**
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

November 19, 2020 TAB-16

Joel Morse, Principal
T&B Planning
17542 East 17th Street, Ste 100
Tustin, CA 92780

Subject: Updated 2020 Oak Tree Survey Letter Report of Findings for the Glen Ivy Senior Community Project

Dear Joel:

On behalf of T&B Planning, HELIX Environmental Planning, Inc. (HELIX) has prepared this oak tree survey report to document the results of a 2020 oak tree survey for the Glen Ivy Senior Community Project (project) located in the community of Glen Ivy, in unincorporated Riverside County (County), California. The 11.29-acre project study area is comprised of two Assessor Parcel Numbers (290-190-083 and 290-190-084).

This report summarizes the methods, results, and recommendations based on a review of existing information and the oak tree survey conducted by HELIX on March 24, 2020. The survey was conducted in accordance with County of Riverside Guidelines (County 1993). The Riverside County Oak Tree Management Guidelines, Ordinance No. 559 (County 1993) requires mapping of all trees of the genus Quercus, including coast live oak (*Quercus agrifolia*), canyon live oak *(Quercus chrysolepis),* Engelman oak (*Quercus engelmannii),* California black oak (*Quercus kelloggii),* Oracle oak (*Quercus morehus),* and interior live oak (*Q. wislizenii)*. Scrub oak (*Quercus berberidifolia*) is not classified as a tree and it is not subject to the County Oak Tree Management Guidelines. Individual trees shall not be subject to the County Oak Tree Management Guidelines unless their trunks are larger than two inches with a diameter at breast height (DBH) for a single trunk, or the sum of the diameters of multiple trunks at breast height.

## INTRODUCTION

### Project Location

The project site is located within an unincorporated portion in the western portion of Riverside County, southeast of the City of Corona (Figure 1, *Regional Location*). The site is situated southwest of the intersection of Trilogy Parkway and Temescal Canyon Road and west of Interstate (I-) 15 (Figures 2, *Aerial Vicinity* and 3, *Oak Tree Locations*). The project site is located within the boundaries of the

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), outside of any Criteria Cell or other areas targeted for conservation.

### Project Description

The proposed project is a senior housing development and associated infrastructure. Specific project impacts are not included in the details of this report.

## METHODS

HELIX biologists Dan Torres and Rob Hogenauer completed an oak tree survey on March 24, 2020. Mr. Hogenauer returned on October 29, 2020 to survey the off-site portion of the potential impact area. The survey included mapping all oak trees in the study area with a diameter breast height (DBH) of two inches or larger. Data collected on the oak trees including the DBH, number of trunks, approximate height, canopy appearance, and general health of each tree (Attachment A). The location of each oak tree was mapped using submeter accurate global positional system and plotted on an aerial photograph (Figure 3). The biologists collected the data for each tree and placed an aluminum tag on the north side of each tree. The canopy of each tree was measured in the four cardinal directions (north, south, east, and west) and details regarding the fullness of the canopy and aesthetic value of the tree were analyzed. Each tree was gently tapped with a hammer to determine if the tree had internal decay. Each tree was inspected for evidence of damage or infestation from tree borer beetles and other infections. The height of each tree was estimated and recorded with the other data.

## RESULTS

The onsite project area was determined to include 28 oak trees (oaks 1-28) with a DBH of two inches or larger. Nine additional trees (oaks 40-48) were mapped in the potential off-site impact area. All oak trees (onsite and off-site) in the project study area are coast live oak. The DBH of the oak trees ranges from 4 inches to 57 inches (Table 1, *Oak Tree Inventory*). Two of the trees mapped are dead and nine of the trees are in a state of decline or have damage evident. The canopy of the trees on-site ranges from a full symmetrical well-balanced canopy to asymmetrical trees with limited aesthetic value (Attachment A).

**Table 1**
**Oak Tree Inventory Data**

| Tag Number | Number of Trunks | Height (Feet) | DBH [1] (inches) | Health Notes |
|---|---|---|---|---|
| **1** | 8 | 38 | 38.0 | Internal decay present |
| **2** | 5 | 40 | 42 | Vigorous with full canopy |
| **3** | 2 | 40 | 25.5 | Symmetrical, but thinning |
| **4** | 1 | 42 | 30.5 | Tree in decline, leaning to north. |
| **5** | 5 | 15 | 35.0 | Dead, bark exfoliated, tree has collapsed. |
| **6** | 1 | 30 | 23.5 | Tree in decline, lean to north crown is thinning |
| **7** | 1 | 47 | 38.0 | Dead, Bark exfoliating |
| **8** | 1 | 32 | 5.0 | Tree in decline, tall with small canopy |
| **9** | 1 | 30 | 7.5 | Tree in decline, dead wood present, thin canopy |
| **10** | 1 | 30 | 7.0 | Trunk bent |

**Table 1 (cont.)**
**Oak Tree Inventory Data**

| Tag Number | Number of Trunks | Height (Feet) | DBH [1] (inches) | Health Notes |
|---|---|---|---|---|
| **11** | 1 | 9 | 16.0 | Tree in decline, internal decay, tree has fallen but still has green leaves |
| **12** | 2 | 32 | 16.5 | Full canopy, tree has strong lean to east |
| **13** | 1 | 30 | 17.5 | Tree in decline, canopy thinning, strong lean to west |
| **14** | 1 | 15 | 4.0 | Not tagged due to swarm of bees on tree |
| **15** | 1 | 20 | 7.5 | Asymmetrical, strong lean |
| **16** | 1 | 18 | 5.5 | Insect (borer) damage present, severe lean |
| **17** | 1 | 16 | 7.0 | Cankerous growth present, asymmetrical, leaning to east |
| **18** | 1 | 15 | 11.0 | Asymmetrical, internal decay, |
| **19** | 1 | 43 | 37.5 | Internal decay, some limb fall, borer damage |
| **20** | 2 | 37 | 30.0 | Internal decay, borer damage |
| **21** | 2 | 32 | 37.5 | Full canopy with new growth |
| **22** | 2 | 35 | 38.0 | Full canopy |
| **23** | 1 | 30 | 14.0 | Thinning canopy, lean to west |
| **24** | 3 | 32 | 32.5 | Internal decay, leaning to west |
| **25** | 1 | 22 | 10.0 | Full canopy |
| **26** | 1 | 39 | 25.5 | Strong lean, shaded by adjacent trees |
| **27** | 1 | 45 | 55.0 | Symmetrical, full canopy |
| **28** | 1 | 45 | 57.0 | Some broken branches, but full crown. |
| **40** | 1 | 30 | 29.0 | Road side tree subject to trimming. |
| **41** | 1 | 32 | 23.0 | Road side tree subject to trimming. Bark damage from apparent vehicle collision. |
| **42** | 1 | 26 | 26.0 | Road side storm drainage access point within canopy (root ball). |
| **43** | 3 | 28 | 38.7 | Road side tree limiting west side canopy. |
| **44** | 1 | 40 | 34 | Truck on edge of Cold Water Creek, canopy to north limited by adjacent sycamore. |
| **45** | 2 | 18 | 5 | Tree crowded with mixed clump of other trees. |
| **46** | 1 | 17 | 4 | Tree crowded with mixed clump of other trees. |
| **47** | 1 | 20 | 9 | Tree crowded with mixed clump of other trees. |
| **48** | 1 | 19 | 10 | Tree crowded with mixed clump of other trees. |

[1] DBH is the trees Diameter at Breast Height rounded to the nearest 0.5 inch: multiple trunk tree DBH was calculated by taking the square root of the total of the squares of each trunk.

Dead trees were included in the inventory as these can be used by cavity nesting birds and as hunting perches for raptors. Of the two dead trees on-site, one has collapsed (Tree 5) and does not provide habitat for cavity nesting specie, while the other dead tree (Tree 7) has potential to be used by cavity nesting species or as a hunting perch.

## TRANSPLANTING

Mr. Hogenauer conducted research regarding the viability of transplanting large oak trees. Research indicates that transplanting of oak trees with a height of eight feet or more is not recommended. Oak trees have the best success rate when they have a height of five feet or less when transplanted. Oak trees tend to develop a tap root to seek out moisture in the soil and for the first few years of growth the lateral root development remains minimal (SF Gate 2020). The tap root can be severed on trees that are eight feet or less in height without serious harm to the tree (SF Gate 2020).

When trees are transplanted the larger tree exhibits little above ground growth for years following transplanting, while smaller trees show significant above ground growth in the same time period (Watson 2005). This was attributed to the root growth occurring at the same rate in both the larger and the smaller trees, and the larger trees requiring more time to regrow the full root structure. The Watson study was not specific to oak trees, but rather included data from red maple (*Acer rubrum*), red oak (*Quercus rubra*), and other tree species. The study indicates that transplanting a tree of 10 inch DBH takes 13 years to restore its original root volume while a tree with a four inch DBH would require only five years.

Research specific to coast live oak in southern California indicates that long term survival rate is less than 40 percent (Dagit and Downer). The Dagit and Downer year study indicates that transplanting coast live oak trees is expensive and has a low success rate. Additionally, the County of Riverside oak tree guidelines state that relocation of oak trees does not constitute mitigation and is considered the same as removal.

## CONCLUSION

The trees on-site appear to be of natural origin. The County Oak Tree Management Guideline prefers avoidance of impacts to oak trees, if possible. Per the County guideline, an oak tree is considered impacted if the project results in ground disturbance within the drip line of the tree, or if the branches of the tree require trimming as part of the project design. Based on previous experience with the County Guidelines, a mitigation ratio of at least 2:1 is anticipated to be required for impacts to naturally occurring living oak trees. The specific mitigation for impacts to oak tree is subject to a discussion with the County.

## CLOSING

We appreciate the opportunity to provide you with this oak tree survey report. Should you have any questions or require additional information, please do not hesitate to me at (562)537-2426 or Beth Martinez at (619) 462-1515.

Sincerely,

Rob Hogenauer
Senior Scientist

**Enclosures:** Figure 1. Regional Location
Figure 2. Aerial Vicinity
Figure 3. Oak Tree Locations

Attachment A. Oak Tree Inventory Data

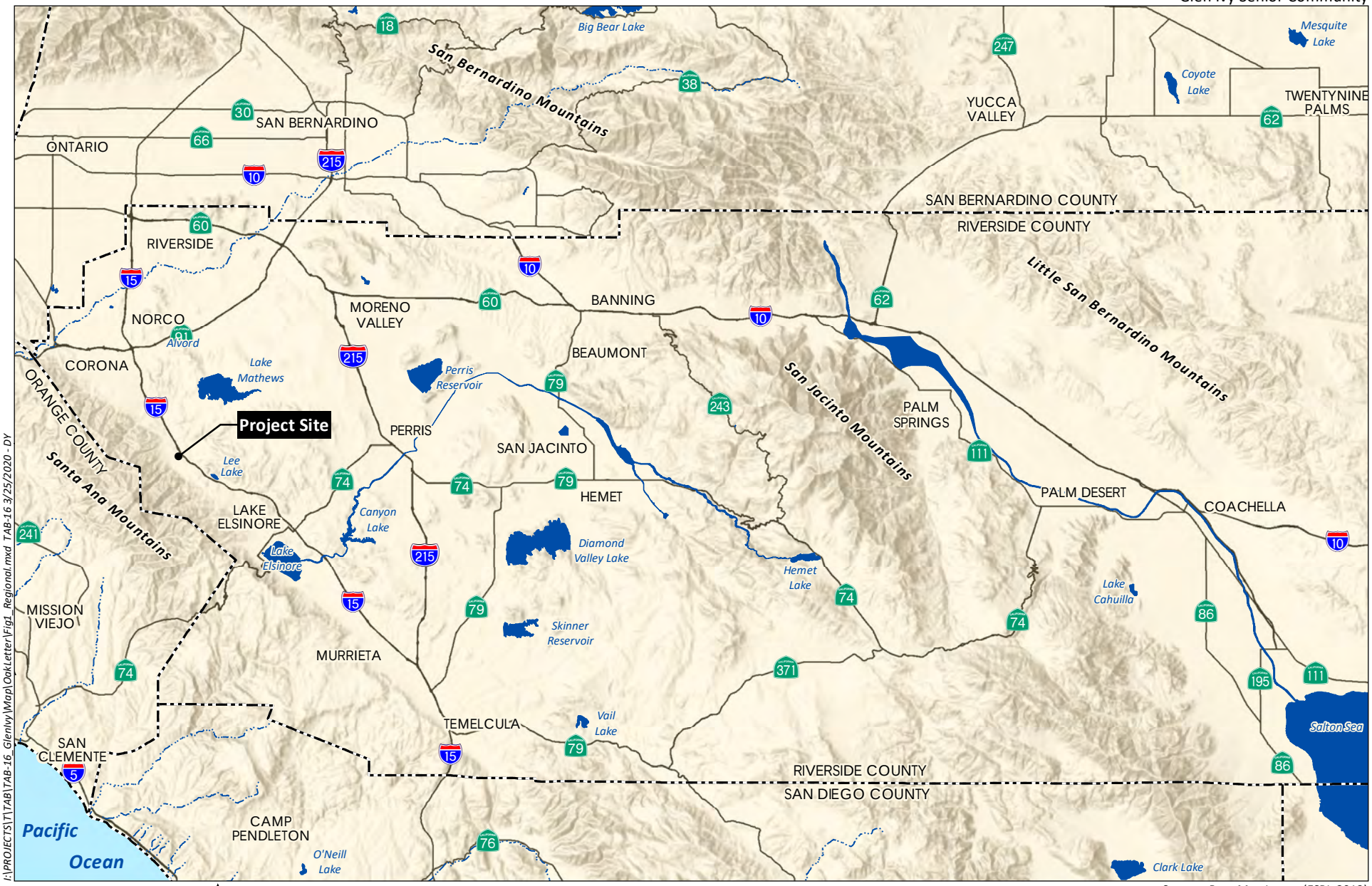
## REFERENCES

County of Riverside. 1993. Riverside County Oak Tree Management Guidelines. Available at: https://planning.rctlma.org/Portals/14/devproc/guidelines/oak_trees/oak_trees.html. March 2.

Dagit, Rosi and Downer, A. James. 1997. Status of Transplanted Coast Live Oaks (Quercus agrifolia) in Southern California. USDA Forest Service Gen. Tech. Rep. PSW-GTR-160

SF GATE. 2020. Digging a Live Oak Tree. Available at: https://homeguides.sfgate.com/digging-live-oak-tree-64043.html. Accessed March 31.

Watson, W. Todd. 2005. Influence of Tree Size on Transplant Establishment and Growth. Hort Technology. January-March.




0 10 Miles

Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

# Regional Location

Figure 1


I:\PROJECTS\T\TAB\TAB-16_GlenIvy\Map\OakLetter\Fig2_AerialVicinity.mxd TAB-16 11/10/2020 -DY

0 1,000 Feet

Source: Aerial (RCIT, 2016)

HELIX Environmental Planning

# Aerial Vicinity

Figure 2


I:\PROJECTS\T\TAB\TAB-16_GlenIvy\Map\OakLetter\Fig3_OakLocs.mxd TAB-16 11/10/2020 -DY

0 200 Feet

Source: Aerial (RCIT, 2016)

HELIX Environmental Planning

# Oak Tree Locations

Figure 3

# Attachment A
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **1** | 38.16 | 11.7, 12.1, 18.2, 11.3, 11.6, 7.3, 13, 18.9 | 38 | 25 | 26 | 27 | 11 | C- not symmetrical due to shading by adjacent tree, tree is large and spreading | C- some crown thinning | C | Internal decay present- fruiting bodies on old pruning wounds; oak galls present | None. |
| **2** | 41.98 | 20, 19.8, 18.7, 13.4, 21 | 40 | 29 | 21 | 31 | 34 | B- wide, spreading branches reach ground, fairly symmetrical | B- tree appears vigorous and full | B | None evident. | None. |
| **3** | 25.48 | 15, 20.6 | 40 | 18 | 20 | 20 | 21 | C- fairly symmetrical, dieback subtracts from aesthetics | C- crown is thinning | C | None evident. | None. |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **4** | 30.50 | 30.5 | 42 | 30 | 15 | 24 | 30 | C- slight lean north, thinning crown subtracts from aesthetics | D- severe crown thinning | D- tree is in decline | None evident. | Old mechanical damage on trunk, wooden planks are nailed to trunk. |
| **5** | 34.87 | 15.4, 9, 13, 13, 27 | 15 | 30 | 30 | 30 | 30 | F- dead | F- dead | F- dead | None evident. | Tree is dead, bark is mostly exfoliated, tree has collapsed. |
| **6** | 23.40 | 23.4 | 30 | 24 | 17 | 16 | 20 | C- slight lean north, tree is somewhat symmetric | D- crown is thinning, epicormic sprouting is present | D- tree is in decline | None evident. | Two trunks are growing into each other at DBH, DBH measured at 2.5 feet. |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **7** | 38.00 | 38 | 47 | 33 | 40 | 24 | 26 | F- dead | F- dead | F- dead | None evident. | Bark is exfoliating, DBH measured at 3.5 feet below trunk bulge. |
| **8** | 4.90 | 4.9 | 32 | 2 | 5 | 12 | 10 | D- tree is tall and skinny, small canopy extent, not symmetric | D- lots of dieback present | D- tree is in decline | None evident. | None. |
| **9** | 7.50 | 7.5 | 30 | 2 | 20 | 10 | 2 | D- tree is leaning E, canopy is very thin | D- lots of deadwood present | D- tree is in decline | None evident. | None. |
| **10** | 6.90 | 6.9 | 30 | 5 | 2 | 15 | 3 | D- small canopy extent, trunk is bent several times, not symmetric | C | C | None evident. | Very limited canopy extent. |
| **11** | 16.00 | 16 | 9 | 4 | 20 | 3 | 2 | D- very poor aesthetic value | D | D- tree is in decline | Internal decay present- fruiting bodies on trunk | Tree has fallen, still has green leaves. |
| **12** | 16.28 | 9.8, 13 | 32 | 20 | 20 | 18 | 8 | D- strong lean E | B- lots of new growth, canopy full | C | None evident. | None. |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **13** | 17.40 | 17.4 | 30 | 20 | 16 | 19 | 18 | D- strong lean W | D- canopy is thinning | D- tree is in decline | None evident. | None. |
| **14** | 4.20 | 4.2 | 15 | 6 | 6 | 6 | 6 | B | B | B- tree appears healthy | None evident. | Tree not tagged- swarm of bees were resting in the tree. Trunk splits at DBH- measured at 4 feet. |
| **15** | 7.60 | 7.6 | 20 | 2 | 17 | 12 | 2 | D- severe lean, not symmetric | B | B | None evident. | None. |
| **16** | 5.40 | 5.4 | 18 | 12 | 15 | 10 | 2 | D- severe lean, not symmetric | B | B | Cankerous growth and borer holes present. | None. |
| **17** | 7.20 | 7.2 | 16 | 10 | 15 | 8 | 2 | D- poor aesthetics, not symmetric, leaning E | B | B | Some cankerous growth present. | None. |
| **18** | 10.90 | 10.9 | 15 | 14 | 13 | 4 | 8 | C- tree not symmetric, slight lean NE | B | B- tree appears healthy | None evident. | None. |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **19** | 37.40 | 37.4 | 43 | 32 | 21 | 24 | 30 | B- large tree with good trunk, growing in the open | B- minor amount of deadwood | C- internal decay in main trunk | Some insect borer holes present | None. |
| **20** | 30.20 | 25.3, 16.5 | 37 | 18 | 18 | 24 | 22 | C- tree has slight lean W | B- canopy is full | C- some internal decay present in area of limb fall | Some insect borer holes present, 2 trunks with an acute angel of attachment. | |
| **21** | 37.64 | 25.8, 27.4 | 32 | 22 | 22 | 30 | 32 | B- tree is large and open, standalone tree | B- canopy is full, lots of new growth | C | Some internal decay in a large branch. | Old tag 3132 |
| **22** | 38.06 | 30.4, 22.9 | 35 | 28 | 30 | 24 | 30 | B- large, fairly symmetrical | B- full canopy, lots of growth | B- appears healthy | None evident. | None. |
| **23** | 14.00 | 14 | 30 | 3 | 10 | 16 | 15 | C- strong lean W | C- some crown thinning present | C | None evident. | None. |
| **24** | 32.40 | 23.3, 18.1, 13.4 | 32 | 18 | 18 | 28 | 28 | C- tree is somewhat symmetric, leaning W | C- some canopy thinning/die back | C | Some internal decay present. | None. |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **25** | 10.00 | 10 | 22 | 12 | 12 | 12 | 10 | B- tree is fairly symmetrical, full canopy | B- crown is full | B | None evident. | Tree has old branches and tree waste at the base. |
| **26** | 25.30 | 25.3 | 39 | 16 | 32 | 6 | 2 | D- tree has a strong lean E | B- crown is full | B | None evident. | Tree is being shaded by adjacent larger tree |
| **27** | 54.80 | 54.8 | 45 | 41 | 34 | 42 | 46 | A- tree is symmetric and well-balanced | B- lots of new growth, vigorous | B | None evident. | None. |
| **28** | 57.10 | 57.1 | 45 | 30 | 24 | 25 | 28 | B- some broken branches | B- crown is full | B | None evident. | DBH measured at 2.5 feet, 3 trunks arise at DBH. |
| **40** | 29 | 29 | 30 | 25 | 27 | 26 | 16 | B-mostly symmetric | C-low branch trimming | B | | Road side tree, regular trimming |
| **41** | 23 | 23 | 32 | 16 | 12 | 14 | 13 | C-irregular symmetry | C-bark damage, crown thinning | C | | Damage possible due to vehicle collision |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **42** | 26 | 26 | 26 | 21 | 12 | 16 | 18 | C-asymmetrical, irregular shape | C-crown thinning | C | | Road side location, storm drain access with canopy |
| **43** | 38.7 | 23<br>21<br>23 | 28 | 21 | 16 | 26 | 24 | B-mostly symmetrical | B | B | | Road side location limits west side growth |
| **44** | 34 | 34 | 40 | 15 | 32 | 28 | 22 | B-shaded by sycamore on north side | B | B | | Rooted on upper side of creek bank |
| **45** | 5 | 3<br>4 | 18 | 8 | 6 | 4 | 3 | C | B | C | | Growth limited by crowding of adjacent trees |
| **46** | 4 | 4 | 17 | 5 | 5 | 3 | 6 | C -limited canopy | B | C | | Growth limited by crowding of adjacent trees |

# Attachment A (cont.)
# March 2020 Oak Tree Survey Raw Data

| Number | DBH calculated (inches) | DBH | Height_(ft) | Canopy (Feet from trunk) | | | | Aesthetics (symmetry, broken branches, etc.) | Vigor (new tip growth, leaf color, abnormal bark, deadwood, crown thinning) | Health (based on archetype tree of the same species) | Diseases/ Pests | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | E | S | W | | | | | |
| **47** | 9 | 9 | 20 | 6 | 4 | 5 | 4 | C -limited canopy | B | C | | Growth limited by crowding of adjacent trees |
| **48** | 10 | 10 | 19 | 6 | 4 | 8 | 4 | C -limited canopy | B | C | | Growth limited by crowding of adjacent trees |

# Appendix G

## Representative Site Photos

View from center of property looking north showing dense mix of native and non-native annuals with scattered mix and non-native trees visible.

View from center of property looking east showing dense mix of native and non-native annuals with off-site development east of Temescal Canyon Road visible in the background.

View from Center of the property to the northwest showing a dense covering of annuals in the foreground with coast live oak trees in the background.

View from near the southwest corner of the property looking west showing a dense cover of annuals with scattered non-native tree of heaven.

View from near the southwest corner of the property looking west showing a dense covering of annuals with scattered non-native tree of heaven. Coast live oak trees are visible in the background.

View from southwest corner of the property looking east showing Temescal Canyon Road and proposed off-site portion of the project.

View from the southwest corner of the property looking south showing the recent work on the adjacent property by Riverside Flood Control.

View of struggling lone willow tree located on the property.

View from western edge of property showing path of Drainage 1 that travels under the canopy of an oak tree.

View of road ruts in the northwest corner of property showing scattered vegetation debris.

View looking west on off-site area showing proposed outfall temporary impact path.

View looking south along Cold Water Creek showing proposed location of outfall structure.